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RHEUMATOID ARTHRITIS: THE PRESENT STATUS OF SULPHUR, VITAMIN D, BEE VENOM, CHAULMOOGRA OIL AND GOLD AS THERAPEUTIC AGENTS

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It is a medical maxim of accumulated experience that the more remedies recommended for a particular ailment the less specific any of them is likely to be. Nowhere is this fact brought home more clearly than in the field of rheumatic disorders. Conflicting reports concerning various therapeutic agents are to be found in the literature, and distorted statements with exaggerated claims are made daily by the drug houses manufacturing and distributing products purporting to be of benefit in these conditions. The purpose of this paper is to review the literature pertaining to certain agents currently recommended as being of value in the treatment of rheumatoid arthritis, to set forth their present status, and to answer for the practitioner the question, "Am I justified in using these modalities when treating the cases of rheumatoid arthritis in my practice?"

SULPHUR

The modern use of sulphur in the treatment of rheumatoid arthritis apparently had its inception in 1904 when Goldthwait, Painter and Osgood[1] in studying the metabolism of various blood constituents reported two cases of atrophic arthritis showing a loss of sulphur and one case of hypertrophic arthritis showing a sulphur retention while on a measured average intake. In 1915 Loeper and others[2] in France reported the results of intravenous injections of sulphur in cases of "acute articular rheumatism" (le rheumatisme articulaire aigu). These authors were the first to use colloidal sulphur intravenously and contended that although the drug did not supplant others of proven value, nevertheless in many cases it initiated a cure. Comrie[3] in England in 1917 reported the successful treatment of infectious arthritis, fibrositis and myositis by intramuscular injections of sulphur and added, "This method is also very helpful in lingering cases of gonorrheal rheumatism."

It was not until some years later, however, that treatment with this remedy became popular. From 1932 the literature began to accumulate and by 1934 and 1935 the vogue of administering sulphur was in full swing. The great majority of the writers were enthusiastic. Typical of these was Senturia,[4] who, after treating a total of 60 cases of arthritis, 8 of which were of the rheumatoid variety, stated, "The prompt decisive response obtained with the institution of colloidal sulphur therapy is striking; any other position than that the effect was produced by the sulphur is untenable," and he concluded, "It is felt that, empirically, at least, the value of colloidal sulphur in arthritis and allied states is established." Woldenberg[5] in October 1937 reported a series of 356 cases in which he claimed 78 per cent favorable response to this medication. He stated that this percentage of his cases were "free from pain after the fifth or sixth injection and the spasticity of the muscles began to disappear. The effusion in the joints gradually became less, and after about 3 to 4 weeks of treatment, it was practically gone." Wheeldon[6] claimed excellent success in treating 892 patients with this method of therapy.

One group of physicians, Forbes et al.,[7] fed patients on a "high sulphur, low carbohydrate diet" and concluded that "definite improvement resulted in the majority of cases, the best results being obtained in those patients with rheumatoid arthritis."

Various attempts have been made to explain the apparent improvement as due to definite physiologic changes. The best known were those of Argy[8, 9] and Sullivan and Hess.[10] These authors stated that the cystine content of the finger nails of arthritics is lower than those of normal individuals and that the cystine content rises under sulphur therapy, and that furthermore, this rise is coincident with clinical improvement. One of them stated that the cystine content varies in inverse proportion to the sedimentation rate.

Such facts gave rise to various theories. Sullivan[11] believed that this implied "an intoxication factor which draws on the sulphur complexes . . . and diverts sulphur from its normal channel." He further stated that "the increases of the cystine content of the nails . . . after the injection of sulphur, implies that the sulphur . . . either combines with the injurious material and thus spares the normal body sulphur complexes from being diverted, or stimulates the general defense mechanism of the body." Forbes[7] suggested that indoluria secondary to liver damage brought on by sulphur deficiency in the liver is present in arthritis and disappeared with improvement. Woldenberg[5] stated that colloidal sulphur assists in restoration of metabolic stability.

However, even during the period of 1933–35 when many authors were crying their enthusiasm, some were skeptical or opposed to the drug. Thus, Cecil,[12] in discussing in some detail the treatment of arthritis in an article in the *Journal of the American Medical Association* of November 1934, dismissed sulphur with the short sentence, "I have been quite disappointed in the results obtained from various forms of sulphur," this sentence being from a paragraph starting, "Drugs play a comparatively minor part in the treatment of rheumatoid arthritis." By June 1934 sulphur was no longer used in the treatment of rheumatoid arthritis at the Walter Reed Hospital.[13] Kinsella[14] found very little improvement in a series of 50 to 60 cases and stated that the number of injections necessary was an indirect argument against the medication. The report of the American Rheumatism Association in its Review for 1935[15] was definitely critical and in referring to some of the enthusiastic reports stated, "It is difficult to believe these extravagant claims." In October 1938 the Council on Pharmacy and Chemistry of the American Medical Association presented its report[16] on sulphur and in this it voted not to accept sulphur in any form as a drug recommended for the treatment of arthritis, stating that satisfactory evidence of its usefulness did not exist.

The final blow, however, was struck by Freyberg, Block and Fromer[17] of Ann Arbor, Michigan in a paper read before the meeting of the American Rheumatism Association in May 1939. In a critical analysis of controlled cases they brought out the following facts: 1. Cases of rheumatoid arthritis show no true sulphur deficiency. 2. No significant change constantly occurs in the cystine content of the finger nails of rheumatoid arthritics when these patients are under treatment with sulphur. 3. When colloidal sulphur is injected intravenously or intramuscularly, sulphur excretion increases out of proportion to that injected and a negative balance ensues, actually depleting the preexisting body sulphur. They concluded that sulphur has no place in arthritis therapy. In the discussion that followed this paper, Bauer, Margolis, Keys and others added their agreement. Reviewing the literature for 1938, the editorial committee of the American Rheumatism Association[18] stated regarding sulphur, "This remedy for arthritis has about run its span of favor. Nothing good was said for it." Nevertheless, in 1939 papers appeared by Wheeldon and Bosher[19] and by Wheeldon[20] in which the value of sulphur is implied if not actually stated. One of the papers claims to be "intended as the first report of a long series of investigations being conducted in the hope of establishing biochemical evidence of the relationship of sulphur metabolism with arthritis." From the reports of others previously cited it would seem that this hope is rather slight. It is interesting to note also that Cawadias,[21] who in 1916 recommended sulphur for various types of arthritis, has recently (1940) published an article[22] recommending its use only in "endocrine metabolic arthritis," referring apparently to what some writers speak of as "menopausal arthritis."

For practical purposes, it seems safe to say that colloidal sulphur has had an adequate trial experimentally and clinically, that it has failed to bear out its early promise, and that its further use is not warranted.

VITAMIN D

Unfortunately, we are living in an age of high pressure propaganda, advertising and salesmanship, which has invaded even the ranks of medicine and has had its effect on physicians as well as laymen. Each of the vitamins has had its proponents as a cure for practically all the ills of man; and arthritis is no exception. A, B, C and D have all been heralded as valuable adjuncts in the therapy of this condition. In the case of vitamin D, however, a "super-vitamin treatment" has appeared involving the use of massive doses, that is, from 100,000 to 1,000,000 units daily. When one recalls that the average daily rhachitic preventive dose is 1,000 units, the meaning of "massive dosage" is immediately clear. Apparently, the first to use this method of treatment were Dreyer and Reed[23] who observed that 2 patients with rheumatoid arthritis showed definite clinical improvement while receiving massive doses of vitamin D for hay fever. Shortly thereafter others began to use this method of treatment and reported varying degrees of success. Farley[24, 25] has been its chief proponent. His papers of 1937 and 1938 report improvement in every case; and they speak of vitamin D as "a weapon effective in every type of arthritis, regardless of the state of advancement of the disease." These papers have drawn the criticism of the authors of the Sixth Rheumatism Review[18] who feel that the conclusions stated are not justified on the basis of the investigations as reported, and state: "The wording of the report is, to say the least, incautious, and the results are quite at variance with those reported by others. . . . Reports of this kind are bound to lead to serious disappointments by others. . . ." Nevertheless, there are other investigators who are at least in partial agreement with Farley's conclusions. Thus Dreyer and Reed[23] reported 32 additional cases with a total of 73 per cent improvement, Steck[26] stated that 75 to 80 per cent of rheumatoid arthritis could be improved, and Livingston[27] reported 86 per cent improvement in 14 cases. This latter author recommended the use of fever therapy in conjunction with vitamin D. All of these authors claimed that the patients showed subjective and objective improvement and that the sedimentation rate was improved, while one (Steck) went so far as to state that roentgenograms showed recalcification of bones. In May 1940, Snyder and Squires[28] reported a series of 23 cases of chronic arthritis which had been "resistant" to other forms of treatment and which were kept under observation on a high vitamin D regimen for 4 to 18 months. Seven of these belonged to the rheumatoid type and 8 were of a "mixed" type. Of the former, 3 showed "excellent improvement," 2 showed "good improvement," and 2 showed only "slight improvement"; while of those with "mixed" arthritis, 1 showed "excellent improvement," 4 showed "good improvement," and 3 showed "slight improvement." On the basis of their studies, Snyder and Squires concluded that "the drug has benefited the great majority of these patients in varying degrees," although they also noted that "laboratory results and X-ray findings disclosed no clear correlation with the degrees of subjective and objective improvement observed."

On the other hand, Vrtiak and Lang[29] in a series of 20 cases found that only 10 per cent showed marked improvement, while a total of 60 per cent showed some improvement. They concluded that a conservative attitude was indicated toward this form of therapy, whereas Wyatt, Hicks and Thompson[30] found only 20 per cent improvement in 40 cases.

In Snyder's first paper[31] he reported trying the drug in 30 cases and stated that most showed general tonic improvement but that the arthritis had remained unchanged practically a year. Muether[32] reviewed the use of various vitamins in arthritis and stated that his experience with vitamin D had been "most unconvincing" and that toxic symptoms were noted with as little as 50,000 units daily. Irons[33] advised against the use of the drug on two grounds, first, because clinical benefit has not been proven, and, second, because possible unfavorable results due to massive doses of vitamin concentrates have not been altogether excluded. In England, Race[34] noted improvement in 20 out of 24 cases.

In October 1938 Abrams and Bauer[35] published the results of a thorough and critical analysis of 18 cases, and concluded "the results indicated that the administration of massive doses of vitamin D in rheumatoid arthritis is of little or no value in altering the course of the disease." Of their cases, only 1 showed marked improvement, although 11 more showed varying degrees of improvement during treatment. Interesting, also, was the fact that all cases showing improvement regressed shortly after treatment was discontinued. In this study, also, the effect on the sedimentation rate was not constant and did not follow either the evidence of subjective or objective change. In July 1937 the Council on Pharmacy and Chemistry of the American Medical Association[36] released its report in which it stated that Condol and Ertron, the high potency vitamin D drugs, were not acceptable for inclusion in N. N. R. and stated that the Council "deprecates the unwarranted exploitation of these products to the medical profession." This stand was reiterated in August 1939[37] with the terse statement by the Council, "Clinical evidence does not warrant the claim that massive doses of vitamin D are of benefit in chronic arthritis. . . ."

Two factors of major importance have yet to be clarified. The first of these pertains to toxic reactions during the administration of the drug. Some authors[30, 32, 33, 35, 38] have noted severe reactions consisting of vomiting, diarrhea, anorexia, polydipsia and profuse swelling, while others[25, 26, 28] have stated that reactions are minimal, consisting only of mild nausea, headache and heartburn. The second point needing clarification may be closely linked with the first and relates to the effect of massive doses of vitamin D on such blood factors as calcium, phosphorus and phosphatase. Several authors[27, 28, 35, 39, 40, 41] have conducted investigations on these points with inconsistent and inconclusive results. Hypercalcemia has been produced in albino rats[42] on moderately elevated doses of vitamin D concentrate, while excessive doses produced marked skeletal decalcification with metastatic calcification in heart and various blood vessels. Recovery, however, occurred when the drug was withdrawn. Abrams and Bauer[35] listed hypercalcemia and severe toxic reactions as the reason for not exceeding 200,000 units of the drug daily, but Snyder and Squires[28] used as much as 400,000 units daily without evidence of toxicity in 1 case, and 300,000 units daily in several others with only minor disturbances. A rise in blood calcium to 12 mg. per 100 c.c. or over occurred in only 6 of the latter's 23 cases, and in only 3 of these cases was it above 14 mg. per 100 c.c. Farley[40] reported a series of 15 cases receiving 50,000 to 700,000 units daily and stated that hypercalcemia was never observed. In view of these facts, the question raised both by Farley and by Snyder and Squires relative to the form of vitamin D used would seem sound, for their products differed from that of Abrams and Bauer in its chemical preparation. This has led them to state that "the question of the relative degree of toxicity of the various vitamin D preparations employed in the treatment of chronic arthritis assumes a great importance in the final determination of the value of high dosage vitamin D therapy." The point, however, is certainly moot at the present time, and its final analysis must await further study.

All in all, massive dosage of vitamin D would seem at the present time a questionable procedure and certainly does not justify the extensive advertising which at least one manufacturer of this product is conducting. Those using it must be prepared to find many cases which will not respond.

BEE VENOM

Closely bound with legendary herb cures and with incantations has been the romantic belief that the sting of a bee will cure arthritis. The origin of this fable seems lost in antiquity. Writers on the history of this subject[43, 44, 45, 46] usually preface their remarks by stating that it is a "well-known observation that beekeepers do not develop arthritis" or that "beekeepers know arthritics are less subject to swellings than normal persons." These writers have recorded that in 1859 Desmartis of Bordeaux reported good results in the treatment of cases of rheumatoid arthritis by using bees to sting patients.

In 1888 Philip Terc is said to have reported the treatment of over 2,000 rheumatics over a period of 40 years, stating that marked improvement resulted, while in 1919 an attempt was made by Langer to extract the venom and use it by injection for the treatment of arthritis in children.

Currently this mode of therapy is being advocated for treatment of rheumatoid arthritis, more by the drug houses than by competent medical opinion. In 1935 Beck[44] of New York published a book on the subject entitled: "Bee Venom Therapy: Bee Venom, Its Nature and Its Effect on Arthritis and Rheumatoid Conditions." In this he extols the virtues of bee stings and bee venom in treating rheumatism. The book, however, apparently met with a very cool reception, since in April 1936 Beck[45] found it necessary to take up the cudgel once again and in an article in the *Journal of Medicine* flayed the medical profession for not giving this method wider trial. This article is one of the most unusual ever published in a scientific journal. Without support for any of his contentions, and indeed without even publishing a bibliography, the author makes wild and extravagant claims for the bee venom and lays the responsibility for the poor results so often obtained in treating arthritis directly in the lap of the medical profession. At one time he states the "success (?)" of the publication of his book has convinced him that "the medical profession, in general, seems to have distinct fear of bee stings or, possibly, is rather reluctant to compete with the beekeeping fraternity in treating this group of ailments, in spite of the remarkable results the laity have achieved in their 'roadside clinics.'" The article closes with the following burst of rhetorical elegance, apparently designed to hide the lack of scientific facts: ". . . Thereby hangs the tale, and these words are spoken more 'in sorrow than in anger.' It is rather disheartening how little interest and attention are paid today to comforting the millions of miserable victims of this 'bête noire.' This statement refers not only to the medical profession but to all civic, charitable and philanthropic organizations. There are cancer foundations, societies and homes, and the same for infantile paralysis victims, the poor, the aged, the orphans, etc. (which is by no means a censure), but hardly anything is done for the wretched, and what is worse, hopeless victims, doomed in agony on racks of thorns, gnawed by excruciating pains, for yet unnumbered days, sipping slowly from the bitter cup of despair. The dissolution of arthritics is everlastingly protracted; they are even deprived, often enough, of the great adventure of being able to slightly raise themselves to blow out their life-candles—a grateful and fertile field for a host of good Samaritans."

Fortunately, some of those investigating this type of therapy have attempted to be more scientifically accurate. Thus, Kroner and others[46] at Cornell reported improvement in 73 out of 100 cases treated with commercial bee venom yet took a conservative view of the matter. These authors stated that the best results occurred in patients "with mild arthritis but accelerated sedimentation rates," and those patients remaining under treatment the greatest length of time showed the greatest improvement. In general, the time necessary for definite improvement was about one year. However, one of the authors (Nicholls) has published a subsequent report[47] on 27 cases treated with actual bee stings and states that "bee sting therapy has no constant or noteworthy effect. Results were so discouraging that we felt we were not justified in continuing this form of therapy." Ainlay[43] treated 37 cases of "arthritis and neuritis," of which 16 were "cured," 20 more were improved and only 1 was unimproved. In all, he claimed an improved sugar tolerance and improved sedimentation rate but made no mention of the degree of improvement as related to the type of arthritis, except to say, "It is obvious, that since some of these were of the atrophic type, that swelling would never disappear completely and from this viewpoint could never be cured by any method." Nevertheless, he sees fit to state, "Bee venom is probably indicated in the treatment of all forms of acute and chronic arthritis. It appears to be most effective in the extra-articular manifestations such as muscular rheumatism, sciatica, lumbago, and neuritis. . . ." In England, Mackenna[48] is enthusiastic about the use of bee venom in cases of fibrositis, but states that he finds rheumatoid arthritis the least suited of the arthritides for this method of treatment and has now abandoned it altogether; while Kersley[49] states that the popularity of bee venom is decreasing, and Hill[50] found 50 patients treated with bee venom, baths and massage little better than a like number treated with baths and massage alone. The mechanism of action of bee venom has been the subject of conjecture and is felt to be that of a foreign protein, a counterirritant, a desensitizing agent or a histamine-producing agent. Although Burt[51] could not prove the latter, Feldberg and Kellaway[52] in a rather exhaustive article considered this to be the most likely explanation.

On the basis of reports thus far made, neither the actual sting of bees nor the injection of commercial bee venom would seem warranted in the treatment of rheumatoid arthritis. Indeed, further investigation of the product hardly seems justifiable in view of other more promising methods of treatment.

CHAULMOOGRA OIL

In 1926 Paul McIlhenny[53] of New Orleans stated that in his work as orthopedic consultant at the Leprosarium in Carville, Louisiana, he had observed that the lepers were not subject to "secondary infectious types of arthritis," meaning, apparently, the atrophic or rheumatoid type of arthritis. In a later article[54] he stated that this fact had led him to search for some cause, and that since leprosy was attended by marked metabolic disturbances the disease itself could not prevent arthritis and that the treatment with chaulmoogra oil must therefore be the answer. Although such a deduction is not without fault, other modes of therapy have been advocated with less justification. This paper reported 30 cases which McIlhenny treated over a 9 months' period, some of atrophic, some of hypertrophic and some of mixed arthritis, but further than this no classification was mentioned. According to this statement, all cases showed improvement, and he stated, "Improvement may be expected in the second week of treatment; the average patient becomes symptoms-free in about 8 weeks." In view of such optimism, it seems strange that more persons have not taken up this line of endeavor. Those who did, however, are also enthusiastic. Hebert[55] of Hot Springs in 1933 reported giving the drug to 27 patients with improvement in all but 4, and "these 4 turned out to be not true arthritis." Hebert found that although all patients showed some improvement, the degree and type of improvement varied considerably. He too failed to classify his cases, simply stating that "most all" were of the atrophic variety. Robinson[56] in 1937 reported favorably on the treatment of 200 cases and concluded that "chaulmoogra oil is very efficacious in the treatment of acute infectious (including gonorrheal) and atrophic forms of arthritis where deformity is not marked." Smith and others[57] reported a series of 65 cases of various types of arthritis treated with this modality and stated that "chaulmoogra oil gave definite and marked symptomatic relief in the majority of those of so-called atrophic type," and concluded, "It is felt that the rapid and striking improvement which followed the injections of chaulmoogra oil in so many of our cases of those atrophic and mixed types of chronic arthritis justifies the continued use of this drug until more specific therapeutic measures are found." Stanley[58] reported that he had treated approximately 200 cases of various types of arthritis with chaulmoogra oil and reported in some detail the results in 50 cases selected "because they afforded an idea of the success achieved." Stanley made no specific claims for the drug but simply noted "improvement in practically all cases." However, in reading his paper one feels his conclusions somewhat optimistic for the results he reports. Forestier[59] felt that his results with chrysotherapy were too favorable to warrant trying any series of atrophic cases on chaulmoogra oil. He did, however, use the drug in 3 cases which were gold resistant, but none responded. He also was not impressed with treatment of other types of arthritis by chaulmoogra oil.

At the present time it would seem that a complete evaluation of the value of chaulmoogra oil must await more adequate and more complete studies; the small literature to date might be termed enthusiastic but hardly impressive.

GOLD

French writers have long felt that a relationship exists between certain cases of atrophic arthritis and tuberculosis, and often mention "tuberculous rheumatism." It is not surprising, then, that they should have employed drugs in one case which seemed indicated in the other. Recalling that certain cases of tuberculosis showed improvement when treated with gold, Forestier in 1927 began the use of gold salts in arthritis. This method of therapy was soon taken up in England, and more lately and more slowly in this country. Indeed, most American authors are still cautious, but the French and English have become quite enthusiastic. Forestier,[60, 61] reporting on 6 years' experience with 500 cases, stated, "Injections of gold salts when properly administered have given better results in the treatment of atrophic (rheumatoid) arthritis and of all forms of infective arthritis than any previous method employed in France." Tegner,[62] who toured this country and Europe in 1938–39 as a traveling fellow for the Empire Rheumatism Council, expressed his surprise that gold had not been given a more thorough trial here, and stated that if all methods but one of treating atrophic arthritis were to be discarded, he would retain chrysotherapy.

By far the greatest volume of work in this line has been reported by Hartfall, Garland and Goldie[63, 64] in England. These authors have now treated over 1,200 cases of various types of arthritis with different gold preparations, many of these cases now having been followed over 5 years. In view of the critical analyses of these authors and the tremendous number of cases treated, their continued use of the drug and enthusiastic recommendations are difficult to disregard. Thus, they state, "We firmly believe that rheumatoid arthritis if seen in its early stages can be cured by gold, and there are few, if any, cases of the disease that cannot be improved." Van Breemen,[65] who treated some 300 cases, likewise found the drug superior to any other treatment, as did Hill,[50] who treated 50 cases. Ellman and Lawrence[66] have contributed a valuable experiment in a controlled series of cases. Thirty-two patients were treated with an intramuscular preparation of gold in almond oil, while 20 patients were treated with intramuscular injections of almond oil alone. Of the 20 controls treated on almond oil alone over a period of 9 months, 1 case became free of all symptoms and signs of activity, 13 cases were improved, and 6 remained unchanged. Of those cases treated with gold in almond oil over a like period of time, 16 received small doses of gold and of this group 6 lost all signs of activity, 8 were improved, 1 showed no change, and 1 was worse. Of 16 cases treated with large doses of gold, 8 lost all signs of activity, 7 were improved, and 1 remained unchanged.

In this country, Sashin and his co-workers have published two papers[67, 68] covering 80 patients with "active advanced rheumatoid arthritis refractory to other measures and of more than 1 year's duration." They report 82.5 per cent as showing improvement. These authors compiled results of 1,537 cases of rheumatoid arthritis treated with gold by various authors and found a total of 54.1 per cent either cured or markedly improved, and only 13.1 per cent not benefited at all, the remainder showing mild or moderate improvement. In his "Textbook of Medicine," Cecil[69] states, "Gold therapy is now considered by many students to be the most satisfactory single agent in the treatment of rheumatoid arthritis, and the writer is disposed to agree with this point of view."

Various authors differ in regard to the value of gold in ankylosing spondylitis (Marie-Strümpell arthritis). Thus, Sashin[68] reported that 55 per cent of his cases with this variety showed improvement, while Perles[70] recommended it not only for this but also for Still's disease. Copeman and Tegner,[71] on the other hand, while praising gold in other forms of rheumatoid arthritis, doubted its value in Marie-Strümpell cases.

It must be admitted that not all those who have tried the "golden cure" are favorably impressed. Thus, Thompson, Wyatt and Hicks,[72] whose previous work in the field is such as to command respect, stated that they were disappointed in results obtained, while Willcox[73] noted the dangers from gold salts and commended, "I do not like to use them." Neither of these authors, however, gave the drug any extended trials.

The great drawback to this method of therapy and the reason for the lack of more clinical data from the clinics of this country is the toxicity of gold and the hazards attending its use. Complications directly attributable to the injection of the gold itself range from such minor disturbances as increased pain and stiffness of affected joints shortly after administration of the salt to such major catastrophes as exfoliative dermatitis, agranulocytosis and death. Stomatitis, jaundice, albuminuria, colitis and neuropathies have been recorded,[74] and although various salts of gold have been used in order to lessen these unpleasant side actions, approximately 2 to 6 per cent of all cases treated develop some manifestation of toxicity regardless of the preparation used. Despite this "treatment morbidity," however, of the more than 1,500 cases compiled by Sashin, there was a total mortality of only 0.58 per cent. Concerning these reactions, Forestier[61] has stated, "Considering these accidents as a whole, they must not be taken too seriously, and it would be a great mistake to deprive arthritic patients of the benefit of gold salts for fear of accidents which appear to be somewhat rare and in most cases are not serious." At present, there is no certain way of preventing toxic reactions. Various medications, such as calcium gluconate, vitamins (particularly C), liver extract and sodium thiosulphate have been recommended by some,[75,76,77] while at least one investigator[78] has felt that they have little effect.

In the absence of more specific knowledge, it seems wise not to give gold to patients with renal or hepatic disease or to those with a personal or family history of purpura. Urinalyses and blood counts should be done at weekly intervals during a course of treatment, and the drug stopped at the occurrence of albuminuria or significant drop in leukocytes. Initial injections should be small (not over 5 or 10 milligrams), and it seems safest to limit any single subsequent dose to 100 milligrams.

So far as the action of gold salts is concerned, little is known. Kling, Sashin and Spanbock[79] reviewed this aspect of the situation and concluded that the beneficial effects were due to stimulation of the reticuloendothelial system and to the effect of a local deposit of gold on the defense mechanism of the synovial membrane, thereby stimulating it. They call attention to the fact that others have suggested protein shock, lymphocytic production, and tissue oxidation. The entire subject of chrysotherapy has been reviewed in the last 3 Rheumatism Reviews,[18,74,80] and anyone contemplating its use should be familiar with the material presented there.

I have used gold in 16 cases of rheumatoid arthritis over the past 18 months. Although this number is too small and the time elapsed too short to draw any conclusions, the results thus far obtained are sufficiently encouraging to warrant further investigation. Thus, 1 patient, a male aged 62 years with progressive arthritis of 10 years' duration showing crippling and deformity, has obtained marked subjective relief from pain and stiffness, while objectively he has shown diminution of swelling and greater motility of the joints, with a drop in the sedimentation rate. Curiously enough, X-rays have shown improvement in some joints but progression in others. Another case, also a male above the age of 50, has shown subjective and objective clinical improvement with no particular change in X-rays. One woman showed lessened swelling and pain while taking the injections but had a relapse about a month after taking her first course and did not return for a second. One case of mild psoriatic arthritis has shown definite relief of joint symptoms but very little change in the skin lesions. This is interesting in view of the fact that most of these cases do not show joint improvement until the skin clears. In this series, only 1 patient has failed to show definite improvement. A decrease in the sedimentation rate was noted in every case; this was least marked in the one showing no clinical improvement. All patients in this series have been treated alike. The drug used was gold sodium thiosulphate and was injected intravenously. The initial dose was 5 milligrams followed at weekly intervals by 10, 25, 50 and 100 milligram doses. Nine injections of 100 milligrams were given, making a total dosage of just under 1,000 milligrams. Following this course, a two months' rest period was allowed and the course then repeated if symptoms or signs warranted.

To date, no serious complications have occurred, although in such a small series of cases this is meaningless. As a preventive, however, all patients have been required to take the following medications on the day before, the day of, and two days after each injection: some pan-vitamin preparation, dicalcium phosphate, vitamin K and bile salts. In addition, patients are instructed to use a high carbohydrate diet. One of the patients had been tried on chrysotherapy 2 years previously elsewhere but had discontinued the drug after 4 injections when she "broke out in large purple spots beneath the skin over the entire body." This patient has now been given one complete course without evidence of dermatitis or purpura. Another patient developed an itching, scaly eruption over the arms and legs following the second injection. Treatment was discontinued for 2 weeks and then resumed. She too has now completed one course without further evidence of toxicity.

Despite the many favorable reports accumulating, gold can hardly be said to have established itself as a necessary adjunct in the treatment of rheumatoid arthritis. This much can be said, however: Of all chemotherapeutic agents thus far advanced for the treatment of this condition, it seems to hold the most promise. One thing is sure—gold does not produce marked or striking remissions, as are sometimes seen in gonorrheal arthritis after one session of fever; but, on the other hand, gold does appear either to inhibit the pathologic process or to stimulate the defense mechanism, and so to bring about a gradual improvement in the condition in the majority of cases.

Summary

The literature pertaining to the use of 5 chemotherapeutic agents in the treatment of rheumatoid arthritis has been reviewed, and an attempt made to set forth the present status of each. In addition, the author's use of gold in a short series of cases has been mentioned. On the basis of the context, the following conclusions seem justified:

1. Sulphur has had a thorough clinical trial and has been found to be of no value in this condition; its continued use is not justified.
2. Bee venom and chaulmoogra oil have not been subjected to critical investigation, but are of no proven benefit. In our present state of knowledge they are not thought to be worth the cost to the patient in time, money and inconvenience.
3. Vitamin D has been the subject of conflicting reports. Although some authors are enthusiastic, its value has not been proven.
4. Gold seems to offer the most hope of any remedial agent thus far introduced, although its use is still attended by many hazards and should be undertaken only with extreme caution.

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(*Continued on page 38*)

ACUTE CORONARY THROMBOSIS*

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The clinical syndrome which is called "acute coronary thrombosis" is, in reality, the result of myocardial infarction, acute ischemic necrosis of ventricular muscle. It is an incident, perhaps an accident, in the life of a person with atherosclerosis of the coronary arteries. It is only one of the three modes of disability resulting from coronary sclerosis, the others being angina pectoris and congestive heart failure. As the diagnostic criteria of disease of the coronary arteries, so clearly presented by Dr. Marvin, are becoming more widely understood, it is plain that acute coronary thrombosis is at once more prevalent and, when properly recognized, less dangerous than was previously supposed. It is not, to my knowledge, possible as yet to intervene effectively in the chain of events which ends in coronary occlusion, but by establishing the diagnosis early after the onset of symptoms, the subsequent course may often be changed entirely in direction.

Etiology

The prevalence of coronary thrombosis cannot be accurately determined; mortality statistics include diseases of the coronary arteries but do not distinguish coronary occlusion as a primary cause of death. By examination of random samples of death certificates in New York State it has been estimated[1] that between 400,000 and 500,000 attacks of coronary occlusion are sustained annually in the United States, an incidence of 1 attack per 54 men and 189 women over 40 years of age, with a total mortality of nearly 120,000.

Atherosclerosis of the coronary arteries with its sequela, acute coronary thrombosis, is probably a metabolic disorder with a constitutional basis. A certain body type, or build, is inherited and in adults determines weight within limits. Arteriosclerotic heart disease in middle age and beyond is notably more common among persons who are overweight; its mortality rate is twice as great as among the underweight. With body type, a tendency to coronary disease may thus be inherited. In certain families, leaving aside all diabetics, there runs a demonstrable aberration of cholesterol metabolism, and with it, a familial record of coronary disease. Particularly among the instances of coronary occlusion in individuals under 55 years of age the blood cholesterol is elevated in a large proportion. Since it is not possible, by any reasonable form of diet, to raise the blood cholesterol in normal persons, it is to be assumed that here again an inherited peculiarity of fat metabolism may contribute to the advance of coronary arteriosclerosis. It is probably the abnormalities in fat metabolism which provoke the high incidence of arteriosclerosis and coronary thrombosis among persons with diabetes.

But lest this apparent adoption of predestination as to coronary disease seem too altogether Presbyterian, it should be stated as a belief as yet unsupportable by figures that overnutrition due to overindulgence may also be a principal contributing factor in the etiology of coronary thrombosis.

The association of coronary thrombosis with arteriosclerosis and hypertension is striking, but concerning other contributing factors, remote and immediate, there is less agreement. In some cases in which coronary occlusion occurs during or following surgical shock it has seemed plain that the lowered blood pressure and resultant slower coronary flow have contributed to thrombus formation in the vessel. However, there is no etiologic factor which is obviously common to all or to many cases. In some, coronary occlusion follows unusual exertion; in many more it develops during sleep. This lack of conclusive agreement regarding the relation of various factors to the onset of coronary thrombosis undoubtedly rests upon the fact that the abnormality rarely develops precipitately. The onset of symptoms probably marks the most recent of a series of events. Certain it is that examination of an occluded coronary artery from a patient who has died suddenly, soon after the first symptoms, may reveal several stages of developing thrombosis.

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* Read at the Annual Scientific Assembly of the Society, October 17, 1940.

Pathologic Considerations

In anatomic terms acute coronary thrombosis is the result of a progressive lesion in the arterial wall. In this the first important stage is the rupture of capillary blood vessels supplying the intima. This usually occurs into or near an atheromatous plaque. It may narrow the arterial lumen without rupture of the intima or thrombosis. Or, more frequently, rupture of nutrient capillaries may lead to intimal necrosis and secondary thrombus formation within the lumen of the vessel at this site.

In a physiologic sense either of these events impedes the flow of blood through the artery. Whether or not death of the patient or infarction of the heart muscle supervenes is determined by other factors. Of considerable importance is the contemporary nutritional requirement of the affected section of the myocardium; infarction is the more liable to result the greater the load on the heart relative to the coronary flow. But the immediate result of the accident is principally governed by circumstances antecedent thereto, the anatomic arrangement of the coronary vessels[2] and the adequacy of the collateral circulation.[3] In one third of human hearts the arterial blood supply to the myocardium is evenly balanced between right and left arteries; these suffer least from thrombosis of one. In about one fifth the left artery furnishes more blood than the right; these suffer most, and the left artery is more frequently sclerotic than the right. The extent and efficiency of collateral circulation is, paradoxically, conditioned by the previous inadequacy of circulation; inter-coronary anastomoses will have developed principally when and where such have been needed. In certain hearts examined post mortem it appears that closure of the main stem of one or even both coronary arteries has taken place without infarction of the heart muscle. Obviously this must have occurred gradually, in the presence of adequate anastomotic channels.

In the event of acute coronary thrombosis a greater or lesser portion of the myocardium is completely deprived of its intrinsic blood supply. Necrosis probably commences at once, although histologic evidence thereof is scarcely demonstrable for nearly 6 hours, and proceeds to involve the entire thickness of the ventricular wall save for a thin layer adjacent to the endocardium, where some nutriment is seemingly derived via the Thebesian vessels from the blood in the ventricular cavity. The necrotic area is soon invaded by polymorphonuclear leukocytes and mononuclear cells. These later penetrate and phagocytose the necrotic muscle fibers. By the end of three or four days after the occlusion new-formed capillaries grow into the infarct and with them connective tissue fibroblasts. Later intercellular collagen fibers appear, adding strength to the fibrous scar. Where the infarct extends to the endocardium, mural thrombi form within the ventricular cavity. The entire cycle from necrosis to repair is completed within 4 to 8 weeks according to the size of the infarct. There is considerable evidence indicating that healing is delayed by general impairment of the myocardial blood supply, by circulatory failure or by anemia.

Symptoms and Signs

Pain or discomfort, which may vary in degree from a vague substernal misery to a terrible oppressing choking agony, is an almost invariable accompaniment of acute coronary thrombosis. The cause of such pain is still uncertain, but several characteristic features deserve particular mention: 1. In its classical form it involves the left pectoral, subclavicular and supraclavicular regions, medial surface of the upper arm and ulnar portion of the forearm. 2. It may be accompanied by a sensation of cold and numbness. 3. It is often diffuse, sometimes encircling the chest; it occasionally appears as a dull continuous ache in one or both axillae. 4. It rarely, if ever, commences in that area of the precordium which overlies the ventricles; it commonly begins beneath the upper sternum or even manubrium. 5. Occasionally the pain may be "referred" to the epigastrium, but in my experience this is most frequently true when accompanying failure of the right ventricle has caused acute passive congestion of the liver. Finally, two features serve to distinguish the pain of acute coronary thrombosis from that of angina pectoris, its unremitting continuity for hours or even days, and the fact that vasodilating, depressor drugs (nitrites) fail to afford relief. From the pain of pericarditis it differs in that it is not influenced by change of position.

It is evident that the area of myocardium involved by the infarct is totally incapable of performing the function of a muscle. Depending upon its size this segment may more or less seriously interfere with the capacity of the ventricles to maintain the normal cardiac output. In the event of a small infarct the systemic arterial pressure may remain unchanged or, under the influence of pain, may actually rise. But when a larger portion of ventricular muscle, particularly of the left ventricle, is involved, the systemic arterial pressure usually falls. The patient frequently complains of extreme weakness or faintness. A sudden fall of blood pressure may bring on syncope or even a convulsive seizure. Symptoms of congestive failure may appear rapidly, dyspnea and pulmonary edema or splanchnic congestion with nausea. The latter may in some cases mark the onset of symptoms and persist for hours. In certain instances intractable nausea and bradycardia suggest that the vascular occlusion has set in train a series of manifestations of intense vagal stimulation.

Certain objective features are of the greatest value in establishing the diagnosis of acute coronary thrombosis. Upon examination the heart may occasionally appear to be entirely normal. More commonly the rate of beat is increased, the heart may be enlarged, and its sounds distant. Gallop rhythm may become audible or, after the first day following the infarction, a pericardial friction rub. Various irregularities of cardiac rhythm may appear abruptly, ventricular extrasystoles, paroxysmal ventricular tachycardia, auricular fibrillation or auriculoventricular block. Although not unusual as a consequence of more generalized interference with the nutrition of the myocardium, as with diffuse coronary sclerosis, delayed intraventricular conduction does not commonly result from acute coronary thrombosis. It has been suggested that the intraventricular conduction system, bundle branches and Purkinje network, is spared because of its position immediately underlying the endocardium, a zone usually spared in the progress of necrosis following coronary occlusion. Ventricular fibrillation is presumably the proximate cause of death in the majority of fatal cases.

Other manifestations are due to the development and resolution of the infarct itself. Within 24 hours of the onset of myocardial necrosis the patient's temperature rises, rarely above 101°F.; this fever persists in uncomplicated cases for 3 to 7 days. Leukocytosis appears at about the same time and persists longer, 1 to 3 weeks. Concomitantly, sometimes later, the erythrocyte sedimentation rate increases, reaching 30 to 40 mm. in an hour and is persistently rapid well into convalescence. It may, indeed, be that this last manifestation is not to be ascribed to the presence of the infarct alone, since it persists sometimes long after the infarct has been replaced by scar tissue. Thrombi formed upon the endocardial aspect of the infarct are not infrequently dislodged with consequent embolism to lungs, brain, limbs, or viscera. Rarely the embolic phenomena are the first objective signs indicating acute coronary thrombosis. Finally, in a fortunately very small proportion of instances, rupture of the ventricle may take place with sudden death. When it occurs, cardiac rupture usually happens within 2 weeks of the infarction.

I have omitted thus far any discussion of the characteristic electrocardiographic abnormalities which identify infarction of the myocardium. In the first place, it should be emphasized that records taken early or even for some time following the infarction may not deviate significantly from the normal. More commonly distinguishing abnormalities appear in the electrocardiogram within a short time after the acute vascular closure. In contrast with the abnormalities of auriculoventricular (P-R interval) and intraventricular (QRS interval) conduction which accompany diffuse myocardial damage or coronary sclerosis, the electrocardiographic manifestations of acute coronary thrombosis involve characteristically the S-T segments and T waves.

Treatment

Any patient presenting any symptoms or signs conceivably due to acute coronary thrombosis should be treated as such until the possibility is clearly excluded. It must be the primary aim of the treatment to afford immediately adequate and continued rest to the patient and to his circulatory apparatus. It is frequently better to put the patient to bed in the nearest available room rather than subject him to the strain of a ride to the hospital. The patient should be fed and attended so that he is spared all effort, less on account of imminent danger to life than in order to hoard his energy. As soon as the diagnosis can be established some opiate should be given to relieve pain and anxiety and to afford quiet. Morphine is usually undesirable because of its tendency to provoke nausea; pantopon ($\frac{1}{3}$ grain hypodermically) or dilaudid ($\frac{1}{32}$ grain hypodermically) are preferable and may be repeated. Papaverin has afforded relief in some cases.

Diet should be soft, not bulky, and administered in 5 feedings instead of 3. During the acute stage and in early convalescence the diet may well furnish less rather than more than the total caloric requirement of the patient.

Constipation should be combatted and a daily bowel movement produced without resort to vigorously stimulating catharsis. Milk of magnesia and oil, glycerin suppository, or small oil or glycerin-water enemata usually suffice.

Digitalis is indicated only when evidence of cardiac dilatation or congestive failure is apparent, or when auricular fibrillation is present with a rapid ventricular rate and significant pulse deficit. When indicated it should be given in therapeutic doses with care to avoid toxic effects. The routine administration of quinidine on the assumption that it might ward off ventricular fibrillation is entirely unwarranted, in my opinion. It is of value in the occasional case of ventricular tachycardia or to suppress premature ventricular beats when these are so numerous as to embarrass the cardiac output.

The value of xanthine derivatives seems well established. Theobromine sodium salicylate (5 to 7 grains T.I.D.), with or without an added $\frac{1}{4}$ or $\frac{1}{2}$ grain of phenobarbital, or aminophyllin by mouth or hypodermically, should be given early and continued into convalescence. In some instances these drugs appear to ward off pain on effort after recovery from the acute disease. In others, the intravenous administration of aminophyllin (0.25 or 0.5 Gm.) dramatically diminishes the pain in the early stages.

It is scarcely necessary to plead the benefits of oxygen therapy, but it should be emphasized that it is of value early in the course of this disease and not alone as a measure of last resort when signs of failure have become apparent. Whatever the basic cause of the pain which attends acute coronary thrombosis it is certainly dependent in large part upon myocardial ischemia. Oxygen therapy by means of a tent or mask will often afford gratifying relief. By the first method a concentration is attainable in the atmosphere of 40 to 50 per cent and may be continued indefinitely. By means of a mask pure oxygen may be administered, although this is usually not well tolerated for long periods. In addition to its effect on pain, oxygen therapy, in so far as it increases the oxygen content of the myocardial blood supply, enhances the healing of the infarct and the function of the remainder of the ventricular muscle.

Beyond these immediate measures none is so good as time. But this must be prescribed with caution; too little may wreck the results of early treatment, too much may contribute unnecessarily to an invalid reaction. How long should rest be continued? If one may judge from the rate of healing observed post mortem in fatal cases the largest infarcts heal within 6 weeks or 2 months. No clinical signs make possible accurate evaluation of the size of the infarct, but a general impression may be gained from the concomitant degree of circulatory embarrassment. Cardiac dilatation or prolonged fall in pressure should call for rest of 2 months with very gradual return to activity. Light massage and passive exercises should be performed before the patient sits up or stands.

Along with the increasing accuracy of early diagnosis of acute coronary thrombosis the prognosis has improved distinctly. This is due less to any improvement of therapy than to a better comprehension by the profession of the natural history and usual course of the disease. The secondary results of early diagnosis, complete rest during the first few weeks, and gradual return to activity have also contributed much toward the better prognosis. The result is that coronary thrombosis no longer always entails complete and permanent disability; half of its victims return to full or part time work within 6 months to 1 year.

The location of the infarct, anterior or posterior as distinguished by the electrocardiogram, does not significantly influence the outlook for recovery. Certain other factors do, however, appear to bear a determining relation: 1. Number of attacks; the immediate and remote prognoses become worse with each successive attack; 2. age of patient; the immediate prognosis and the outlook for complete rehabilitation are better in younger than in older patients; 3. cardiac enlargement; the probability of recovery and the likelihood of return to active life are twice as great in patients without cardiac enlargement as in those with enlarged hearts; 4. congestive heart failure and angina pectoris; the development of symptoms and signs of congestive heart failure during the acute stage of the disease, or the persistence of these, or of pain on effort, during and following convalescence, distinctly impair the prognosis in any given instance. Both are indications that the remainder of the coronary circulation is insufficient.

In four years, 1936 to 1940, 284 cases of coronary thrombosis were observed in Johns Hopkins Hospital, 205 in men and 79 in women. The incidence was highest in the sixth decade of life. One hundred and forty-four were private patients, 140 were admitted to the wards. Thirty-one private patients died in the hospital, 59 patients died in the wards. The death rate varied from 20 per cent among patients under 40 to 48 per cent among those between 60 and 70.

There were no therapeutic measures or nursing procedures available to the private patients which were not applicable on the wards. The professional care after the patients were admitted was in many instances rendered by the same physicians. The implication of these figures is that among the private patients the disease was recognized and hospitalization was advised at an earlier stage. It is in this direction that we must look for the next advance toward the more successful treatment of acute coronary thrombosis.

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HEART DISEASE IN PREGNANCY*

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That pregnancy imposes upon the circulation an unusual burden is a universal impression. Sir James MacKenzie[1] was well aware that many of the changes in the circulation which he observed during pregnancy were indicative of the extra work which the heart was required to do. These impressions, arrived at by deductive reasoning, have been confirmed in the light of physiologic experiments performed at various clinics interested in this problem. Briefly summarizing the objective evidences of the increased work that the heart must perform during pregnancy (based particularly on the findings of Cohen and Thomson[2] at the Boston-Lying-In Hospital) we find that as pregnancy progresses there is a gradual increase in the blood volume and cardiac output with a slowing of the blood flow, changes which reach a maximum at the ninth lunar month. In the last month of pregnancy there is a return of these values toward normal, representing a lightening of the burden on the heart. This is a point of great practical importance which we shall consider a bit later. These data provide us with definite objective evidence of the increased burden placed upon the heart by pregnancy, confirming of course the clinical impression held by us all. Thus, it is seen that the untried heart essaying the toils of pregnancy must be capable of withstanding an arduous endurance test, the demands of which are continuously present even while the patient is asleep.

But "the young sound heart 'never' fails." Having in mind this reassuring aphorism (that has been often expressed by Dr. Burton E. Hamilton of Boston), the problem of heart disease in pregnancy becomes primarily a problem in diagnosis. Granted the extra load imposed by pregnancy, when once we have established that a given patient has a sound heart, we need have no fear for the exigencies of pregnancy, so far as that particular organ is concerned. But as we all know, the decision as to whether a given heart is normal may at times be difficult. This is less of a problem if the patient has been examined before pregnancy. If, however, she is seen for the first time well along in her pregnancy, a great many symptoms and signs may be present which to the uninitiated may be quite suggestive of cardiac disease. For example, dyspnea, orthopnea, pseudo-paroxysmal nocturnal dyspnea, palpitation and edema, all symptoms upon which we depend for diagnosing the presence of heart failure, may be normally present in pregnant women who are known to have no heart disease. Signs may develop in late pregnancy which excite our diagnostic suspicions—signs that attract our attention to the heart, such as tachycardia, third heart sounds, unduly accented second sounds and systolic murmurs. It has been stated that in late pregnancy a systolic murmur in the pulmonic area is present in 100 per cent of cases; and an apical systolic murmur in 50 per cent. These signs may be attributed to the hyperactive heart of late pregnancy and may not be used to incriminate a sound heart which is making a normal response to an extra physiologic load.

To single out the unsound heart, the heart that is a potential source of danger in pregnancy, is not too difficult a task. If we but carefully listen for the presence of a diastolic murmur we have eliminated about 91 per cent of our chances of making a diagnostic error. In other words, in New England, rheumatic heart disease accounts for over 91 per cent of all heart disease complicating pregnancy. This figure is based on studies of some 1,000 cardiacs at the Boston-Lying-In Hospital. We must become familiar with the diastolic murmurs of mitral stenosis and aortic regurgitation. The more infrequent types of heart disease, which of course are to be borne in mind, are congenital heart disease, hyperthyroid heart disease, hypertensive heart disease, subacute bacterial endocarditis, and very rarely, luetic and coronary heart disease.

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Having singled out the unsound heart, the woman with definite cardiac disease, we have gone a long way toward assuring her of a safe passage through pregnancy provided she follows certain precepts which have become clearly established at the Boston-Lying-In Hospital since the development by Dr. Burton E. Hamilton of the Prenatal Cardiac Clinic some twenty years ago.

The method employed at this Hospital has been briefly as follows. All pregnant women in whom there may be the slightest suspicion of heart disease are referred to the Prenatal Cardiac Clinic where they are examined by internists. They are then allocated to one of three groups, according to whether they have no heart disease, possible heart disease, or definite organic heart disease. Those in the groups of no heart disease or possible heart disease give no concern; there has been no cardiac mortality in these two groups. The third group, however, the one containing the women with objective evidence of heart disease, must be carefully followed throughout pregnancy, for here is the source of all cardiac mortality.

Having selected the women with definitely unsound hearts, a group in whom we may anticipate all of our cardiac mortality, we may concentrate our attention on this smaller number of women and consequently handle them much more effectively. This group of cardiacs may be further subdivided into favorable and unfavorable cases. First let us consider the unfavorable cases. In this group are included those women who sometime in the past have had congestive heart failure or who during their pregnancy develop congestive heart failure. Also in this group are assembled those who have or may develop a complication which of itself may be dangerous, such as auricular fibrillation, tuberculosis, hypertension, toxemia, etc. Fortunately, only a small percentage of women with heart disease fall into this unfavorable group, probably about 12.1 per cent when first seen in pregnancy. The remainder constitute the favorable group. Of course it may readily be seen that during the course of pregnancy a woman may be transferred from the favorable group to the unfavorable group by the development of one of these complications. Approximately 20 per cent are thus demoted, usually from developing signs of heart failure.

Now, having selected the women with unsound hearts, what are we to do with them? Let us consider, first, women in the favorable group, the group without past history of congestive failure and without complication. In the first place, there is probably no functional test which can be employed before or early in pregnancy to determine the heart's capacity to withstand the increasing burden of the advancing months of pregnancy. The load upon the circulation to be imposed by pregnancy cannot be predicted. The factor of infection in precipitating cardiac failure can not be "felt out" by the use of functional tests. Realizing our helplessness to alter the demands made upon the circulation by pregnancy, our effort is to maintain the balance of power in favor of the heart, reducing to a minimum the exactions upon the heart of everyday life, which after all are much more amenable to control. A régime rich in rest is mapped out for each patient and she is seen each week or two during her pregnancy, at which time her daily program is discussed. She is advised of the danger signals of impending trouble, such as undue dyspnea, or hemoptysis; and she is made aware of the importance of avoiding infections, etc. The frequent visits afford to the physician the opportunity of detecting at the earliest possible moment the development of congestive heart failure. Inasmuch as congestive failure is the danger sign in pregnant cardiacs and since its presence is the criterion by which we determine our conduct of the pregnancy, it might be well to enlarge upon this aspect of the subject.

The one practical physical sign indicative of failing circulation is the presence of persistent crepitant râles at one or both lung bases. This sign was recognized by MacKenzie and has been the determining factor in the appraisal of the circulation at Hamilton's clinic. The development of this sign is usually a mechanical proposition in which the pulmonary congestion is resultant upon obstruction to emptying of the left auricle by the stenosed mitral valve. It is not usually an indication of ventricular muscle failure. Effort tests dependent upon determination of the pulse and respiration rates under certain standard requirements have not seemed practical as a means of anticipating congestive failure. The determination of vital capacity has been of some prognostic importance as shown by Thomson and Cohen.[2] In pregnancy uncomplicated by heart disease there is a gradual rise in the vital capacity with succeeding months. This value corresponds to an increase in the subcostal angle with advancing pregnancy. The vital capacity of pregnant cardiacs runs along at about an 8 per cent lower level than that in non-cardiacs. A sudden drop in this figure of about 15 per cent is always indicative of impending congestive failure and as a sign precedes the appearance of râles at the lung bases.

In evaluating basal râles the presence of an afebrile bronchitis has to be considered but offers no great obstacle in the appraisal of the circulation.

The incidence of congestive failure in all cardiacs at the Boston-Lying-In Hospital and at the Worcester City Hospital seems to run about 1 to 5. If a properly cared-for cardiac shows no congestive failure through her pregnancy, she has only about one chance in a hundred of going into failure at delivery, if the delivery is properly handled.

The age of a patient apparently has some influence on the prospects of developing congestive failure. Women over 35 years of age with cardiac disease are twice as likely to fail as pregnant cardiacs under 35 years. Hence, while pregnancy can be safely handled by those over 35 years, the risk is much greater, and therefore the prenatal care should be correspondingly more stringent.

The incidence of heart failure according to the month of pregnancy has afforded an interesting study, showing that there is an increase in the number of cases manifesting congestive failure with each successive month of pregnancy to a peak in the eighth month. Strangely enough, in the last month of pregnancy, the number of cases with failure drops sharply off to a figure strikingly low by comparison. This was a point of great interest to Dr. Hamilton and myself[3] back in 1933. We were able to offer no valid explanation for it. Following our clinical studies another group commenced working on the physiologic aspects of the situation, as I have already briefly mentioned. Their findings of a steady increase in the blood volume and cardiac output, with a decrease in blood velocity to the ninth lunar month, followed by a return to normal of these values in the last month of pregnancy, produce a curve which very nearly approximates the curve of the monthly failure incidence.

Furthermore, the electrical axis of the electrocardiogram which has been trending toward the left may suddenly tend to shift back toward the right.

To what conditions one may attribute this sudden "lull in the storm," we are unable to definitely say. The practical import of a knowledge of this fact is of course quite apparent and will be considered later.

Auricular fibrillation, the bosom friend of mitral stenosis, is an evil complication of heart disease in pregnancy. While it occurred in only about 2.8 per cent of 500 cases with serious disease reported in 1933, 43 per cent of the cases with this complication died. Our impression from studying the ages of this group of fibrillators is that they are inclined to be a bit older than the general pregnancy average. There was 1 patient 15 and another 18 years of age, only 3 in the late twenties, and 6 patients 35 years or older. While one would expect that congestive failure might be the terminal factor in such cases the possibility of pulmonary embolus has to be borne in mind. One regretful case in my own private practice was a 24-year-old woman with mitral stenosis and auricular fibrillation, ambulatory and without signs at any time of congestive failure. In her seventh month, following a light breakfast, she went to her bedroom, threw herself across the bed and expired, without having expressed to her visiting mother that she even felt ill. Undoubtedly her pregnancy should have been terminated early, but for several reasons this was not done.

Paroxysmal tachycardia may occur before and after term. The general feeling is that this is a benign complication, especially when it is associated with no underlying disease. But when this abnormal rhythm develops in a heart already handicapped by the presence of mitral stenosis, the situation may become quite serious and even terminate in death as in 1 case at the Boston-Lying-In Hospital. It is always gratifying to the internist to be able to assure the worried obstetrician that the rapid pulse rate displayed by one of his patients immediately post partum is due to a simple paroxysmal tachycardia and not to a pulmonary embolus or to some concealed internal hemorrhage.

The recurrence of rheumatic fever in pregnancy is quite rare. In 1,061 consecutive pregnancies in women with chronic rheumatic heart disease or a history of rheumatic fever, or both, active recurrent rheumatic fever was recognized only 8 times.[4] The symptoms were mild and there were no deaths.

What is the practical application of the data presented up to this point; just how does one go about handling the individual case of the pregnant cardiac? Let us consider a case classified in the favorable group, that is, a pregnant woman with heart disease who has never shown congestive heart failure and who has no unfavorable complicating disease. She may be given quite considerable assurance as to her prospects of going through pregnancy without mishap. While her risk is ten times greater than the woman who has no heart disease, still with proper care she is pretty certain to make a safe trip. She is observed at weekly intervals through her pregnancy always with the object in mind of detecting the very earliest evidences of a heart beginning to give way under the increasing burden of pregnancy. She has a 5 to 1 chance of not developing congestive failure. When she reaches term she is handled in the same way as any other patient not handicapped by cardiac disease except that the accepted procedure at the Boston-Lying-In Hospital is to deliver such patients by forceps at full dilatation, thus saving them from the strain imposed by the expulsive contractions of the second stage of labor. While, as we have already stated, the favorable cardiac who has had adequate prenatal care runs little chance of going into heart failure at the time of delivery, the authority for this statement may depend on the fact that these patients have been expertly handled at this critical part of delivery.

On the other hand, at the Worcester City Hospital, a general hospital not specializing in obstetrics, the great majority of the favorable cases have gone on to normal delivery with only a small percentage of forceps extractions, and with excellent results (of course a much smaller series).[5] So that it appears to me that these patients may be handled in the same manner as noncardiacs. Cesarean section is not indicated in this favorable group, except for obstetrical reasons, but, if section is necessary for obstetrical reasons, these patients make good average surgical risks.

Now, what of the unfavorable group? How may this poor risk group best be handled to keep maternal mortality at a minimum? In the first place, it seems quite obvious that pregnancy should never be contemplated by a woman with heart disease who has at any time been through a bout of congestive heart failure unless she is willing to face a high risk of death. Where heart clinics are common and general education on health matters is the rule, many cardiacs nowadays discuss their risks and plan their pregnancies. But some do not know or will not face the issue until well embarked upon the arduous nine months. Up until the third month, termination of the pregnancy is strongly urged. If this advice is refused the physician must insist on bed rest throughout the whole pregnancy. Those cardiacs who develop for the first time congestive failure during pregnancy must likewise take to their beds for the duration of the pregnancy. Usually such patients will gradually regain compensation and by careful handling can be brought to term. At first it was felt that all such patients should be finally delivered by cesarean section. Now, taking advantage of our knowledge that in the last month of pregnancy there is a definite diminution in the cardiac burden, the tendency is to let these patients go into labor and be delivered from below.

If, however, compensation cannot be restored by careful management and it seems certain that the haven of diminishing burden afforded by the last month of pregnancy cannot be reached, then it would seem feasible to perform a cesarean section in the presence of congestive failure, hoping to save the mother. But more and more conservatism is the rule, and if the patient has already reached the time when the load of pregnancy is heavy, even when medical treatment fails to restore compensation, the trend is to continue medical treatment in the hope that the patient can be tided along until the load lightens and that then compensation may return.

In conclusion let us see what effect knowledge of the observations and deductions expressed in this paper has exerted upon the mortality rate at the Boston-Lying-In Hospital. In the first years following the establishment of the Prenatal Cardiac Clinic there was a mortality rate of about 12 per cent amongst pregnant cardiacs. This rate gradually fell, and in 1933 it was about 6.4 per cent; at the present time less than 3 per cent of all cardiacs succumb to the dangers of pregnancy. It has been the experience at this Hospital and also at the Worcester City Hospital, where a similar clinic has been existent for about ten years, that nearly half of this expressed mortality occurs in patients who have not attended the clinic but have been hastily referred to the Hospital with the sudden onset of critical heart failure.

It is possible that with adequate prenatal care, which implies frequent and careful observation of the patient by the internist and the obstetrician, as well as implicit coöperation on the part of the patient, the mortality rate among pregnant cardiacs might be gradually lowered, to finally approximate the fatality rate in everyday obstetrics. However, there are several barriers that appear insuperable now, such as subacute bacterial endocarditis, accounting for 0.8 per cent mortality, and fatal embolism, also accounting for 0.8 per cent. It is wishful thinking to believe the cardiac can be as good a risk as the normal woman. The astonishing and gratifying feature is how high a percentage of them can round out their lives by bearing children and be apparently none the worse for it.

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In a ten-year tuberculin-testing program in rural and town schools in four counties in Minnesota the percentage of reactors has fallen from 14.1 to 6.75 per cent. The decrease is attributed to a careful follow-up of all positive reactors, with an intensive search for the source of the infection. Contact with open cases of tuberculosis was broken by hospitalization of the case or placing the children in a home free from tuberculosis. All teachers and school personnel were included in the plan.

PYRETHRUM IN MEDICINE

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Washington

Pyrethrum as an effective means of killing insect pests has been used commercially for a number of years. The fact that the active principles, pyrethrum I and pyrethrum II (cyclic ketonic alcohol pyrethrolone esters with chrysanthemum-monocarboxylic acid and chrysanthemum-dicarboxylic acid methyl ester) are harmless to warm-blooded animals, including man, but extremely toxic to cold-blooded forms of life, has made pyrethrum the most desirable, if not the most efficient component of nearly every household insecticide.

The medical literature on pyrethrum is meager. It is significant, however, that those who have investigated its use have found its action spectacular, both as an anthelmintic and in the treatment of scabies.

There is little reference in the literature and no clinical information as to the use of pyrethrum in the treatment of phthiriasis, or infestation of one or more species of lice on the human body. These parasitic disease-spreaders are a bane to every army in the field, as may be recalled quite vividly by most World War veterans, and a problem to the medical staff of every large receiving institution for detention.

For a number of years the writer has been charged with medical administration in a large jail-type institution of the Federal Government. One of the factors vital to the high health standards maintained in these institutions is the establishment of a rigid sanative routine.

A recent survey of prisoners committed to jail in the District of Columbia reveals that nearly 7 per cent of those admitted suffer from one or more forms of parasitic infestation, and probably more than 2 per cent from scabies.

One of the orthodox treatments for these loathsome conditions is the application of mercurial, or blue ointment. Of course, this is a violent poison to man, and aside from its being unsafe for promiscuous use, its vermicidal action is slow and cumbersome. Large doses by inunction often cause inflammation to the hair follicles, and since there can be no question of the fact that mercury is absorbed, ptyalism may be caused just as certainly in that manner as by oral dosage.

These facts, together with the rather high percentage of cases, directed the writer's attention to the use of pyrethrum compounds. They augured the need of a more efficient preparation applicable to institutional use in particular, and compatible with medical therapeutics in general.

Through the coöperation of Dr. Alfred Weed and Messrs. Hoyer and Haude, associated with one of the larger pyrethrum manufacturers, the writer obtained for experimental work the jelly-like oleoresin of pyrethrum commonly produced when pyrethrum extracts are manufactured by the cold process. This jelly contains an extremely high percentage of organic waxes, fatty acids and resins, with an approximate total of 6 per cent pyrethrins.

To this substance petrolatum was added. It was noted that when the pyrethrum and petroleum jellies were mixed they exhibited a tendency to liquefy. On the theory that this was probably due to stearic changes, a special processing of the compound was necessary to restore its gelatinous character and to produce an unguent calculated to equal in toxicity a 20-pound pyrethrum concentrate. The finished product containing 2 per cent pyrethrins was called A-200 Compound.

This ointment is non-poisonous to man. It might be ingested without harmful reaction. In a series of tests large oral doses were administered to guinea pigs. No toxic effects were noted whatsoever. No changes were observed in the hemoglobin, urine and blood after large dosages, and the total of the pyrethrins fed to the pigs was recovered from the stools.

Following these experiments work was commenced upon those prisoners infested with vermin. It was observed that almost as soon as the A-200 Compound was applied the lice would curl and die within a few moments. Even when spread lightly over infested areas the tiny parasites which had burrowed into the skin would back out from their retreats and might be seen to convulse with paralysis. Since pyrethrum is a central nervous toxin to cold-blooded animals, death is preceded by paroxysms familiar to all who have watched its action. The eggs, which are usually extremely tenacious, immediately become detached from the hairs. On the whole, the action is almost instantaneous and very decisive. A very important fact is that in more than two hundred cases, a single application has been sufficient to delouse the patient, and there is not one instance of contact dermatitis or skin irritation to report by the use of this compound.

This complete success in the treatment of phthiriasis with A-200 Compound suggested its use as a specific for scabies.

Sweitzer and Tedder (1935) and later Sweitzer alone (1936) conducted a series of experiments with a 0.75 per cent pyrethrinated ointment in the treatment of this disease. Their reports stress the importance of preliminary scrubbing and bathing, and declare that success or failure of the treatment depends upon the thoroughness of this operation.

Their reports show further that with an ointment containing 0.75 per cent pyrethrins, contact dermatitis developed in 1 case. In 3 cases of skin irritation patch tests were negative. A total of 1,213 cases of scabies were treated by these investigators, 878 requiring from five to seven days and 283 from seven to fourteen days to complete the treatment. In 52 cases they found it necessary to use Wilkinson's (sulfur) Ointment, either on account of pustular involvement or poor coöperation. The pustular cases were not recommended by them for treatment with pyrethrum ointment.

In more than 70 cases of scabies treated by the writer with A-200 Compound, it has been determined that scrubbing and bathing are not essential to successful treatment, with no contraindications in pustular conditions as reported by the method of Sweitzer and Tedder. The most severe cases required no more than 3 applications of A-200 Compound, and in most instances lesions were found to heal after a single treatment. No recurrences have been noted, nor has there been a single case of dermatitis or skin irritation, notwithstanding the pustular conditions to which the ointment was applied. The fact that the lesions healed so rapidly offers conclusive evidence that the mites had been completely destroyed, thus removing the source of irritation. This rapid action might be explained by the greater concentrations of pyrethrins in A-200 Compound, together with their more thorough dispersions in the base as formulated.

The excellent results achieved in these experiments might indicate that pyrethrum is deserving of further recognition in medicine, and a more thorough exploration of its possibilities would seem to be in order.

New Reports of Poisoning Due to Aspirin. "Recently an editorial on the toxicity of acetylsalicylic acid (aspirin) appeared in these columns," *The Journal of the American Medical Association* for January 11, 1941 says. "Since that time several communications have been received commending *The Journal* for publishing the editorial. One correspondent asserted that he knew of two instances in which only prompt medical attendance saved the lives of two colleagues who had ingested the drug. He also was aware of a prominent dermatologist (a specialist in skin diseases) who developed such intense pharyngeal (pharynx) and laryngeal (larynx) edema (swelling) after taking aspirin that a tracheotomy (formation of an artificial opening into the windpipe) was about to be performed when the edema began to subside. Again, an allergist had informed him of at least five deaths attributed to acetylsalicylic acid. Another correspondent wrote of a patient who had taken 250 grains (16 grams) of acetylsalicylic acid daily for a period of ten days. The patient recovered following treatment directed chiefly toward elimination of the drug, control of acidosis and relief of other symptoms. There must be many more cases of drug intoxication or poisoning than are reported in medical literature. Often only by accident are these brought to the attention of the medical profession. Obviously case reports of such conditions affecting human beings are an invaluable contribution to our practical knowledge of toxicology (what is known regarding poisons). On the other hand, the toxicity (poisonous qualities) of aspirin, in relation to the amount used annually, still must be rated as low."

SURGICAL TREATMENT OF ACUTE AND CHRONIC LUNG ABSCESS*

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Pulmonary abscess is usually classified as acute or chronic, according to the stage of the process. Formerly it was customary to distinguish between abscess and gangrene of the lung. However, if pulmonary abscess be conceived and defined as a nontuberculous suppuration with cavitation in the tissue of the lung, we may dispense with the term gangrene, which merely indicates a variety of pulmonary abscess characterized by complete lack of resistance to the necrotic process by the pulmonary tissue.

Apparently age and sex are unrelated to the development of abscess of the lung. Among the major etiologic factors thus far adduced are antecedent surgical operations, tonsillectomies in particular; aspiration of foreign matter, especially oily substances introduced into the nose; pneumonia; penetrating wounds; carcinoma of a bronchus, lung or esophagus; and parasitic infectious diseases of the lung. Pulmonary abscess may also follow lodgment of a septic embolus in a branch of the pulmonary artery. Congenital cyst of the lung may, if it becomes infected subsequently, present typical features of pulmonary abscess.

The developmental period of a pulmonary abscess is marked by the appearance of an extensive edematous zone and extravasation of blood around the area, from which a circumscribed abscess forms. The fully developed abscess reveals a central cavity of variable size, whose wall is composed of more or less necrotic pulmonary tissue. In chronic cases this wall may be several millimeters thick and consist of dense fibrous tissue. The cavity contains open bronchi of diverse sizes, according as major bronchi are or are not involved in the process. A number of smaller abscesses may surround the principal abscess. Blood vessels, unsupported by pulmonary tissue, which have survived the suppurative process may run through the cavity. Sometimes these vessels are thrombosed, but if not their walls may erode and precipitate the massive hemorrhages which constitute a frequent complication of pulmonary abscess.

The right lower lobe is the commonest site of abscess of the lung. The pathologic process commences as an area of consolidation which gradually undergoes liquefaction. Unless healed spontaneously or by treatment an acute pulmonary abscess eventually becomes chronic. Two varieties of the acute form are generally recognized. In one of these the abscess occurs at the root of the lung around a large bronchus, usually in consequence of aspiration of a foreign body or of infectious material from the mouth, or else in association with a primary carcinoma of the lung, which arises ordinarily in the larger bronchi. In the other variety, the abscess originates presumably in the parenchymatous tissue of the lung, somewhat distant from one of the larger bronchi, and frequently at the periphery, with a relatively normal zone of pulmonary tissue between it and the root of the lung. Abscesses occasionally associated with interlobar empyema are by inference included in this latter type.

A chronic pulmonary abscess generally consists of a cavity of variable size and irregular contour. It contains pus that is often foul and occasionally blood-stained, inspissated, caseous and even calcareous. The wall of the cavity is lined mostly by dark gray or green necrotic tissue. Frequently the abscess is surrounded by a zone of dense fibrous tissue with prolongations of the latter extending in various directions into the lung. Open bronchi are perceived in the cavity. Smaller abscesses which are almost always encountered in the vicinity of the abscess sometimes coalesce and form an extensive multilocular cavity. Bronchiectasis invariably accompanies chronic pulmonary abscess. The dilated bronchi adjacent to the abscess contain granulation tissue which bleeds readily and may occasion even serious hemorrhage. So-called bronchiectatic abscess consists of a cavity of considerable size surrounding a dilated and weakened bronchus. Since bronchiectasis is almost invariably present in connection with a pulmonary abscess of any appreciable extent, provided suppuration has persisted for a sufficiently long while, the use of this term by many writers is inapposite and therefore erroneous. The empyema associated with chronic pulmonary abscess presents the characteristic features of chronic nontuberculous empyema, although the pus is fouler than in ordinary chronic empyema.

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* Read before the Society, October 23, 1940.

The initial symptoms of acute pulmonary abscess are generally constitutional. Later on productive cough, blood-stained sputum, fetor, fever, chills, sweats and pain in the chest, with debility and anorexia, manifest themselves. The sputum may be absent during the formative stage of the abscess, and foul expectoration occur only when communication with a bronchus is effected. In acute abscess the patients are able occasionally to indicate the site of the lesion by the location of the pain. In chronic abscess they frequently present a history of protracted duration of the foregoing symptoms.

The demonstration of a cavity or cavities is practically the only significant evidence afforded by physical examination. Roentgen-ray study is not only much more likely to reveal the existence of small cavities, but is the most accurate means of determining the location of the abscess. Examination of the blood usually shows leukocytosis and increase in polymorphonuclear cells.

The therapeutic indications in pulmonary abscess are fundamentally the same as those for the treatment of abscesses in general. If possible, maturation and spontaneous evacuation should be induced by simple means. Of these, rest in bed is primarily essential, especially in acute cases, since the abscess may rupture into a bronchus, drain and heal during the period of recumbency. Among the nonoperative procedures advocated for the purpose of therapy, postural drainage is exceedingly valuable, provided due consideration is accorded to the posture required by the lobar segment which is involved. For example, an apical abscess necessitates the adoption of an erect seated position, a lateral abscess the contralateral position, and an upper anterior abscess as well as an abscess of the middle lobe, the dorsal decubitus. When the abscess is situated dorsally, the patient should be ordered to lie prone upon a flat bed.

However, if all conservative expedients fail, more adequate drainage should be established immediately by recourse to other methods. Procrastination in the provision of adequate drainage may cause the process to become multilocular and the pleural cavity to be infected. Metastatic abscesses may also occur. Conversely, premature intervention is quite liable to result in an extension of the infection into parts of the lung still exempt. The location of the abscess affords a precise indication for operative interference. Abscesses situated at the periphery rarely drain sufficiently through a bronchus and are more likely to produce empyema by ulceration in the pleural cavity than abscesses located at or near the hilum.

The principal procedures for the surgical treatment of abscess of the lung comprise bronchoscopic drainage, artificial pneumothorax, thoracoplasty, and thoracotomy with pneumotomy. These procedures will be discussed briefly in turn.

While a large number of pulmonary abscesses can be cured by simple postural treatment, if drainage should prove too intermittent or slow under the latter, bronchoscopic suction may be essayed. Bronchoscopy not only serves as an adjuvant to postural drainage but also facilitates the removal of granulations, the dilatation of strictures, and the aspiration of secretions which cannot be expectorated by the patient or eliminated by posture. The role of the bronchoscope in the extraction of foreign bodies from the lungs is of course well established, and its value for the treatment of pulmonary abscesses resulting from the presence of foreign bodies is incontestable. However, the general consensus of competent opinion is that bronchoscopy is adapted primarily for the diagnosis and palliation rather than the therapy of abscess of the lung.

The grave hazards attendant upon the employment of artificial pneumothorax for the treatment of pulmonary abscess render imperative a careful selection of patients whom the procedure is most likely to benefit. Cases in which the lesion is situated at or near the hilum are generally deemed particularly suitable for the application of the method. Accidental rupture of the abscess into the free pleural cavity, or even contamination of the pleura without direct rupture, may produce a severe and sometimes fatal putrid empyema. Excessive compression with consequent obstruction of drainage occasionally results in diffusion of the infection in the lung. Spontaneous pneumothorax from rupture of the lung, pyopneumothorax, air embolism, and other complications may occur. Artificial pneumothorax is definitely contraindicated in pulmonary abscesses situated near the periphery. Acute abscesses of the lung usually respond more readily to this form of therapy than chronic abscesses. Artificial pneumothorax was introduced originally for the treatment of pulmonary abscess because of its successful use in the treatment of pulmonary cavitation incident to tuberculosis. Nevertheless, there is a general impression among thoracic surgeons to the effect that the procedure possesses a limited range of application to pulmonary abscess and frequently fails to achieve the purpose for which it is instituted.

The rationale of thoracoplasty is based upon the fact that the obliteration of tissue-spaces resulting from suppurative disease of the lung is of cardinal importance in the application of the method. I am of the opinion that thoracoplasty should be restricted to cases of chronic pulmonary abscess in which the lesion is located in the apex of the lung. When the abscess is confined to the apex of the lung there is no other way of obliterating it, since the apex of the lung very quickly becomes fixed to the parietal pleura, and would then remain a chronic abscess. On account of the location it is difficult to drain such an abscess externally. The only manner of approach is through the axilla or the anterior wall of the chest. Drainage through the anterior thoracic wall cannot be maintained on account of the pectoralis major muscle and the consequent difficulty of maintaining an opening. Therefore, apical thoracoplasty is the method of preference in these cases.

Abscesses in which conservative methods have failed, chronic abscesses with thick, rigid walls, and abscesses complicated with empyema and pyopneumothorax should be subjected without undue delay to thoracotomy with pneumotomy for the establishment of external drainage. An uncomplicated chronic abscess should be approached surgically by location of the abscess clinically and radiologically and removal of the ribs over a sufficiently wide area of the wall of the chest to permit free access to the abscess. This should be accomplished without incising the pleura. If the lung is firmly fixed to the pleura the operation can be continued, otherwise the wound should be packed with gauze and the skin closed in order to effect fixation of the lung to the parietal pleura. This constitutes the first stage of the operation. The second stage of the operation, which should be done three or four days later, consists in reopening the wound, removing the gauze pack, and incising the pleura and the lung for the purpose of establishing drainage from the cavity of the abscess. When the abscess is complicated with empyema, in addition to the establishment of drainage of the abscess itself, the pleural cavity must be drained.

In conclusion, it may be asserted that abscess of the lung has always and will always constitute a very serious condition characterized by an extremely unfavorable prognosis and a comparatively high mortality, quite irrespective of the individual merits of the several methods of treatment adopted for its cure.

EDITORIALS

WHAT ARE OUR OBJECTIVES?

It would be an optimistic individual indeed who could look to the New Year without some trepidation. For 1941 promises to be an eventful, if not a difficult, year for the people of this country. It is, therefore, important that the medical profession clarify its objectives and gird itself for the task of realizing them.

There may be some difference of opinion as to what our objectives are. However, medical men everywhere will agree on the following:

A healthier nation.

Adequate medical care for all our people.

A medical preparedness program which will safeguard our armed forces.

An unregimented medical profession.

Can we attain these objectives in 1941? Obviously, the answer will have to await the passing into history of what we know will be a momentous year. We can, however, resolve to do our utmost to realize them.

DRAMATIZING HEALTH NEEDS

Reports are current that a new national health program will be presented to the next Congress. Groundwork for this legislation was laid last year when hearings were held on the Wagner Health Bill. No definite information is available regarding the proposed legislation, but it appears that the sponsors of the Wagner Bill have been quite active.

Recently Mrs. Franklin Roosevelt commented on the high percentage of rejections of men drafted under Selective Service because of health defects. She is quoted in the press as saying that she hoped these rejections would dramatize the need for a comprehensive health program. Having the public discover the need for such a program, she said, is a first step toward "awakening public conscience."

Our First Lady deserves commendation for her active interest in public welfare. However, it might be suggested to her that rejections for military service do not necessarily justify the conclusion that the health of the American people is in a sad state.

In the November, 1940 issue of the *Statistical Bulletin of the Metropolitan Life Insurance Company* there appears an article entitled, "Physical Fitness of Draftees." The following quotations from this article bear directly upon Mrs. Roosevelt's statement:

> "America's youth today is more fit to serve the country than any previous generation, including the youth of the World War period. The high rate of rejections of recent volunteers for the Army and Navy is not indicative of the physical status of our young men. The standards set up by the medical authorities are higher than those in the past. Nor are these volunteers always representative of America's youth. It is noteworthy that a large proportion of the rejections are for impairments that are relatively minor and often remediable and, in any event, not a bar to vigorous activity in civilian life. Thus, in a recent study of causes for rejection of volunteers in the New York area, in which one third of the men were found unacceptable, the reasons for the great majority of the rejections were dental, eye, or foot defects, or underweight. An earlier analysis of Navy volunteers, of whom 71 per cent were

rejected on physical grounds, parallels this experience . . .

"Even in advance of detailed findings on medical examination of draftees today, it is safe to predict that they will be found to be healthier, better developed physically, and with a lower incidence of serious impairments than the draftees of 1917–1918 . . .

"Our belief that America's youth will stand the forthcoming test well is based upon the knowledge of what the medical and public health and the allied professions have done to reduce the incidence of serious defects which were the major causes of rejection in 1917–1918. Young men of the draft ages today grew up at a time when organized efforts to improve child health were much better developed than a generation earlier. More of them benefited from good nutrition and better environmental conditions. A larger proportion of children were protected against smallpox and diphtheria in this period. Consequently, young men today have fewer serious impairments resulting from disease in childhood or from poor care or faulty nutrition.

"Of particular importance is the changed situation with respect to tuberculosis, various forms of which were responsible for about 10 per cent of the rejections of draftees in 1917–1918. Unquestionably, the incidence of active tuberculosis or of deformities resulting from the disease, is much lower today than among draftees of the last war . . .

Heart impairments, another major cause of rejection during 1917–1918, may likewise be expected to be of lower frequency today. . . . At the draft ages the reduction in heart disease mortality among Metropolitan Industrial policyholders has been 40 per cent for white men, and 60 per cent for the colored between 1911–1915 and 1939. . . .

"While we may thus be assured that draftees today will compare favorably with those of World War days, we must not overlook the fact that a large number will be shown to have defects—many of them preventable; many, fortunately, remediable. The draft will prove a blessing in disguise to these young men if they take advantage of the opportunity which undoubtedly will be afforded them to correct their physical defects."

As has been pointed out above, reliable statistics relative to examinations of men drafted for military service in 1940 are not yet available. Inquiry at Selective Service Headquarters has brought the response that approximately 30,000 have been examined, of which 12 to 13 per cent have been rejected. The percentage of rejections has been unusually low in the District of Columbia, where it is only 8 per cent.

The point of all this is that advocates of a government system of medicine are not on sound ground when they use rejections for military service as an argument for the need of a national health program.

SPECIALISTS ENVY GENERAL PRACTITIONERS

If the general practitioner has felt himself neglected, he should be elated over the attention which he has recently received in several state medical journals. It all began with an announcement which appeared in the October, 1940 issue of the *Westchester (New York) Medical Bulletin* that a Section on General Practice had been proposed. The *Bulletin* editorialized:

"Hardly anybody can challenge the assertion that representation for the great body of general practitioners, who render the lion's share of medical service throughout the county, has in the past been of uncertain nature, subject to chance and productive of indifferent result. And let us keep our vision clear—the blame for this condition of affairs can be put in but one place, at the feet of the general practitioners themselves.

"Practically every other section of the profession is organized and its interests are well served. This is an assertion that nobody will care to challenge. The general practitioners will continue in status quo or go on to better things exactly in proportion to the interest they evince in their own affairs. The assumption of responsibility, like charity, should begin at home."

Subsequently organization of the Section was announced.

Shortly thereafter the following comment appeared in the *New York State Journal of Medicine:*

"The recent formation in the Westchester County Medical Society of a general practitioners' section marks the beginning of a movement which should have every encouragement and stimulation. The various specialties have long been organized with beneficial results not only to their own smaller groups but to the enhancement of the interests of the profession generally. . .

"The organization of such a reactive movement will not be without its difficulties. In the ranks of the general practitioners are some of the staunchest individualists in the profession of medicine. A general practitioners' section once in session should have many of the well-known characteristics of a hornet's nest. But we think some nests of that kind are badly needed here and there."

The North Carolina Medical Journal promptly inquired just how much territory was covered by the statement that the Westchester County Medical Society's general practitioners' section "'marks the beginning of a movement.'" "In order to keep history straight," the *Journal* recalled "that a general practitioners' section of the Medical Society of the State of North Carolina was organized in 1937, and that it has had the largest attendance of any section of the society. To go still further back, Dr. J. M. Northington, editor of *Southern Medicine and Surgery*, established a Department of General Practice in that journal in July, 1931."

The *Journal* took issue with the view that the section "should have many of the characteristics of a hornet's nest." It said, "The specialists of Westchester County may be comforted by knowing that not one fist fight has developed as a result of the general practitioners' section of the North Carolina society. Its members have not stung one another any more than was necessary to stimulate better work; the only sting felt by the specialists is envy of the excellent programs produced by the general practitioners."

Well! Well! To many general practitioners this recognition will seem long overdue.

Editors of the MEDICAL ANNALS believe that our Society might well give consideration to the establishment of a Section on General Practice. They will await the reaction to this suggestion with interest.

PERTINENT PARAGRAPHS

December Meetings

As usual, meetings of the Society, its boards, committees and sections, were less numerous in December, especially during the last week or ten days before the holidays. However, the personnel of the Society's office was unusually busy closing records for the year and preparing for renewal of activities in 1941.

The following meetings were held in the past month:

December 2	Section on Gastroenterology
December 3	Editorial Board
December 6	Committee on Medical Resources
December 9	Committee on Medical Resources
December 10	Committee on Public Relations
December 11	Scientific Meeting of Society
December 20	Medical Bureau Committee Section on Ophthalmology and Otolaryngology
December 23	Committee on Medical Resources Executive Board

* * *

Effort to Curtail Meetings

As Dr. Daniel L. Borden pointed out in his President's Message entitled, "Meeting Mania," which appeared in the December issue of MEDICAL ANNALS, no city in the country is afflicted with so many medical meetings as Washington. Something, he feels, must be done and in his opinion the time is "ripe for action." He says, "This situation strikes hard at the doors of the District Medical Society, the rightful center of medical activity in this community," and he suggests the desirability of determining if the smaller societies could be amalgamated or their meetings curtailed.

He submitted his proposal to the Executive Board at its meeting on December 23 with the suggestion that a Special Committee on Medical Meetings be created with instructions to confer with the officers of special societies in an effort to obtain their coöperation. The Board gave its unanimous approval and confirmed the appointment of Dr. James Lloyd Collins as chairman. Other members of the Committee will be appointed in the very near future.

The degree of success which will attend the Committee's efforts will depend upon the support it receives from the rank and file of the profession. It is the belief of the Society's officers that if the Committee accomplishes its purpose it will relieve physicians of a needless drain on their time and energy and strengthen the Society at a time when there is the greatest need for it.

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"War Medicine"—A New Medical Journal

Publication of a new medical journal, *War Medicine*, has just been announced by the American Medical Association. The first issue will make its appearance in January.

War Medicine is described as a periodical containing original contributions, news and abstracts of articles of military, naval and similar interest related to preparedness and defense and "designed to help every physician—in uniform or out—to keep up with the various phases of medical service under military conditions. It will utilize the material developed by the various scientific committees of the Division of Medical Sciences of the National Research Council. Covering the questions of personnel, and more specifically the economic and social problems of the profession in relation to the emergency, will be the reports of the American Medical Association's Council on Medical Preparedness. The Coördinating Committee on Medicine and Health of the Council of National Defense will furnish material on national nutrition, provision of hospital services and other related questions."

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Wisconsin's Medical Blue Book

Editors of few state medical journals would undertake the publication within the covers of a single issue of a comprehensive compilation and digest of the laws in its jurisdiction. It is a venture that requires an intimate knowledge of the statutes and an immense amount of labor. Despite its value to their readers, most editors would consider it financially impracticable and physically impossible.

However, the task has been accomplished and those who are fortunate enough to possess a copy of the December *Wisconsin State Medical Journal* will make the acquaintance, if they have not done so in previous years, of the Medical Blue Book. Here they will find a digest of laws or the statutes themselves pertaining to every phase of medical practice—income taxes, inheritance and estate taxes, restrictions on cult practice, medical witnesses and expert testimony and other topics too numerous to mention here.

The Wisconsin State Medical Society is to be congratulated on the enterprise of the editors of its *Journal*.

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First Month's Operation

MEDICAL BUREAU, the Society's 24-hour telephone service, was one month old on New Year's Day. In that period it had handled a surprising number of calls, as the following figures show:

Calls completed from patient to physician	671
Calls received from physicians reporting their whereabouts	543
Calls where the inquirer had no physician and where a doctor on the "Emergency List" was sent; or, if indigent, calls referred to the Health Security Administration, Permit Bureau or Police Department	36
Requests for names of physicians	71
Total number of calls	1,321

There were many inquiries, of course, of which no record was kept.

The public has been prompt in taking advantage of the BUREAU's facilities. Considering the brief existence of the BUREAU, the number of requests for information has been surprising. This type of call is increasing daily. As might be expected, the busiest hours are from 5:00 p.m.

to midnight, when physicians are not in their offices.

The Medical Bureau Committee has appreciated the favorable comments made by physicians who use the Bureau. However, it is continuing its efforts to improve the service, believing this new agency of the Society has much greater possibilities. At least one hundred additional subscribers are being sought so that the Bureau will be completely self-sustaining.

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Classification of Physicians

In July, 1939 members of the Medical Society of the District of Columbia were for the first time classified according to type of practice. The classification has proved extremely valuable. It has not only been used in responding to inquiries from the public but it has provided important data for the Society's files.

As there have been numerous changes since the present classified list was prepared, questionnaires were recently sent to Active Members of the Society requesting up-to-date information and urging that the forms sent them be returned promptly. Several physicians did not appear on the original list because they failed to return their forms. It is hoped that the present circularization will bring response from all members.

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Publication of Lectures Abandoned

Although a number of physicians who participated in the Postgraduate Course in Cardiovascular-renal Diseases conducted in connection with the 1940 Annual Scientific Assembly expressed the hope that lectures given in the Course would be published, only fifty of the Society's entire membership responded to a communication inquiring if they would purchase them in book form at cost. The Subcommittee on Program of the Annual Scientific Assembly therefore abandoned the idea. Most of the lectures have appeared, or will appear, in the Medical Annals.

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Suggested New Year's Resolutions

The following appropriate New Year's resolutions for the physician who knows little about his organization or its activities have been suggested:

"I will attend Medical Society meetings in 1941—and that includes business meetings—to learn what it is all about. I will not find fault or make proposals until I know the facts. I will have a reading acquaintance with the Medical Annals. I will read communications from the Society."

Even if only half of these resolutions are kept, the indifferent physician will prove a fairly satisfactory member.

MEETINGS

Wednesday, February 12

Program to be furnished by the *Section on Pathology and Laboratory Medicine*

(Speakers and subjects to be announced)

Wednesday, February 19

The *Washington Urological Society* will present the following program:

"Hypertension with Unilateral Renal Disease." Stanford W. Mulholland, M.D., Philadelphia. Discussion will be opened by Lloyd G. Lewis, M.D., Brady Urological Institute, Johns Hopkins University

Wednesday, February 26

"Practical Therapy with Vitamin K." Arthur M. Grossman, M.D., Resident, Children's Hospital. Discussion will be opened by Joseph S. Wall, M.D., Professor of Pediatrics, Georgetown University School of Medicine

"Some Recent Findings with Respect to Dental Caries." H. Trendley Dean, D.D.S., National Institute of Health. Discussion will be opened by Daniel F. Lynch, D.D.S., Secretary of Research Committee, American Dental Association

"Newer Knowledge of the Vitamin B Complex," illustrated with lantern slides. Norman Jolliffe, M.D., F.A.C.P., Associate Professor of Medicine, New York University College of Medicine. Discussion will be opened by William H. Sebrell, M.D., National Institute of Health

PRESIDENT'S PAGE

OUR DILEMMA

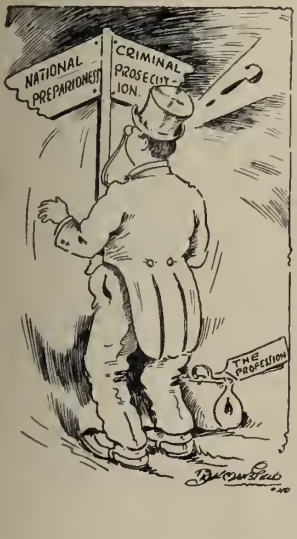
For the Medical Society of the District of Columbia, the dawn of 1941 breaks with two ominous clouds on the horizon: first, the menace of war and second, the threat of criminal prosecution. The cloud of war presents a ray of hope labeled, "Medical Preparedness Program." The thunderhead of criminal prosecution bears a date, "February 5, 1941." Thus is born the new year.

Sandwiched between threat and appeal, the medical profession finds itself in a difficult position. It is hard, awfully hard, to arouse the patriotism of physicians on the one hand while they are defending professional honor on the other. It is, in truth, an incompatible situation. To those of us, therefore, who accept loyalty to country as a high privilege comes the challenge to answer the call on two fronts at the same time.

For a number of years, medical schools have provided courses in military tactics which lead to a commission in the Medical Reserve Corps of the Army and Navy. It has naturally followed that physicians have accepted commissions, many of them with the understanding that they would not be called to active duty without their consent except in the event of war. Obviously, few men in the private practice of medicine could accept commissions on any other basis.

Recent legislation coupled with a proclamation by the President of the United States that a "limited emergency" exists gives the Surgeon Generals of the various services the power to call out Reserve Officers, with or without their consent. The fact that over eight thousand Medical Reserve Officers will be in the services by July 1, 1941 is still a dream to many who are due for a rude awakening when the postman arrives with their orders. At this writing, there are in the services over one thousand Medical Reserve Officers.

In selecting men for service, the War Department announces that "only one valid reason will excuse a member of a reserve military organization from the obligation stated—his greater service to the nation in his civilian status." While technically we are engaged in a peace-time mobilization, an army of over one million men must have medical care.



To the average civilian doctor, this means a great sacrifice and a staggering blow to his future. Especially is this true of the young man, recently established in the private practice of medicine, married, with a child or two, and perhaps a debt hanging over his head. Congress has made provisions to protect the employed draftees by holding their jobs so that they will have a feeling of security. But how about the doctor? His practice depends on personal effort that cannot be safeguarded by any law. To many of us who had this problem to face in the last war there still remains the memory of the struggle to make a new beginning.

The War Department is aware of our problem but it is confronted with the responsibility for the health of a vast army. There remains but one solution—our profession must answer the call to duty. We will not fail!

Daniel Le Ray Borden

MEDICAL PREPAREDNESS NEWS

A Committee on Health was recently created by the District Defense Council. The Committee will develop ways and means of protecting the health of the people of Washington in the event of an emergency. Dr. George C. Ruhland, District Health Officer, is chairman of the Committee.

Members and the organizations they represent are: Dr. William Chase White, U. S. Public Health Service, *Vice Chairman*; Dr. F. X. McGovern, The Medical Society of the District of Columbia; Dr. Paul Corneley, Medico-Chirurgical Society, Inc.; Dr. Daniel F. Lynch, District of Columbia Dental Society; Miss Gertrude Bowling, The Instructive Visiting Nurse Society; Dr. Russell A. Dixon, Howard University Dental School; Mr. B. B. Sandidge, District of Columbia Hospital Superintendents' Association, and Brigadier General F. R. Keefer of the local chapter of the American Red Cross. All of the above, except Dr. White, are chairmen of subcommittees.

A definite program has not yet been worked out by the Committee. As soon as it is, it will be reported in these columns.

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Appointment of a new medical director for the Selective Service System was announced on January 1, 1941. The new Chief of the Medical Division is Colonel Leonard G. Rowntree, Medical Reserve Corps. Colonel Rowntree was formerly Associate Professor of Medicine at Johns Hopkins University School of Medicine and Professor of Medicine at the University of Minnesota. He also served as Chief of the Medical Division of the Mayo Foundation and as Senior Medical Consultant and Director of Clinical Investigation at the Mayo Clinic. Since 1932 he has been Director of the Philadelphia Institute for Medical Research and Research Clinician at the Philadelphia General Hospital.

Colonel Rowntree received his medical education at the University of Ontario, graduating in 1905. Immediately thereafter he went to Johns Hopkins Hospital where he had six years of graduate training. In the World War he was a lieutenant colonel in the Medical Corps and served in France as executive officer of the Air Service Research Medical Laboratories. He is a Past President of the American Society of Clinical Investigation and the American Society of Internal Secretions. He succeeds Lieutenant Colonel Charles B. Spruitt, U.S.A., who has been assigned to the War Department's general staff.

Prior to Colonel Rowntree's appointment, Dr. Robert A. Bier, an Active Member of the Medical Society of the District of Columbia, was Acting Chief of the Medical Division of the Selective Service System. He has now been assigned to the post of Assistant Chief.

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A seminar for Medical Advisory Board and Army Induction Board psychiatrists was held in Washington on January 2-3, 1941. Dr. Winfred Overholser was chairman. The following program was presented:

Introduction: Director Dykstra.

"The Mission of the Psychiatrist," Lewellys Barker, M.D.

"Military Psychiatry and the Selective Service," Lieut. Col. William C. Porter, M.C., U. S. A.

"Psychiatric Experiences of the Veterans Administration," Martin Cooley, M.D.

"Practical Psychiatry," Harry Stack Sullivan, M.D.

"What We Expect of Psychiatry in This National Defense Program," The Honorable Paul V. McNutt, Federal Security Administrator and Coördinator of Health, Welfare and Related Defense Activities.

"The Psychiatric Challenge in Selective Service," James Stuart Plant, M.D.

"Peculiar Personalities: Mood Disorders; Psychopathic Personalities," Roscoe W. Hall, M.D.

"Disorders with Structural Features: Mental Defect and Deficiency; Post-Traumatic Encephalopathy; Post-encephalatic Changes; Epilepsy and Related States; Conditions Associated with Somatic Disease and Injury," Alexander Simon, M.D.

"Psychosomatic Disorders," Lauren Smith, M.D.

"The Psychoneuroses and Malingering," Spafford Ackerly, M.D.

"Schizophrenic and Related Personalities," Dexter M. Bullard, M.D.

Closing Statement: Winfred Overholser, M.D.

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The following members of the Society have been assigned to active duty in the military services during the past month: Drs. Ernest Michaelson, Francis D. Threadgill, Arnold Albert and Marvin McLean.

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Lt. Commander Don Knowlton of the Medical Corps Naval Reserve, who since 1930 has been Battalion Surgeon of Washington's Fifth Battalion, has been appointed Commander of the Seventh Medical Company, First Medical Battalion, First Marine Brigade, Fleet Marine Force. In his new command Commander Knowlton will have an organization of 66 officers and men including two medical lieutenants, two medical lieutenants (junior grade) and one dental lieutenant.

MEMBERSHIP

The following applicants were duly elected to membership at the business session, December 11, 1940:

Active Members

John James Andrina, 1801 Eye Street, N.W.
James Wilson Braden, 1400 M Street, N.W.
Alfred Emanuel Brigulio, 2025 Eye Street, N.W.
Jack Leon Derzavis, 1726 Eye Street, N.W.
Mazarin Campbell Dollman, Stoneleigh Courts
Saul Holtzman, 1726 Eye Street, N.W.
Henry Thomas Kulesher, Columbia Medical Building
Albert Edward Meisenbach, Jr., 927 17th Street, N.W.
Matthew Mendelsohn, Columbia Medical Building
John Edward Morris, 1801 Eye Street, N.W.
LeRoy Robins, 1726 Eye Street, N.W.
Louis Ross, 1801 Eye Street, N.W.
Richard Harding Spire, 2100 North Capitol Street
Benjamin Stein, 1372 Randolph Street, N.W.
Sam Lester Tabb, 3801 Kansas Avenue, N.W.
Bernard J. Walsh, 900 17th Street, N.W.
Joseph James Wallace, Home for Aged and Infirm, Blue Plains, D. C.
Simon Weiner, 100 Longfellow Street, N.W.
Inez Edith Wilber, 927 17th Street, N.W.

Associate Members

Charles Albert Finnigan, 309 Lee Highway, Falls Church, Va.
Leo Victor Schneider, Glenn Dale Sanatorium, Glenn Dale, Md.

The following applicants for membership will be voted on at the business session, January 8, 1941:

For Active Membership

Miriam Frances Dunn, Johns Hopkins University—1928
Clarence Richard Hartman, George Washington University—1936
C. Francis Scalessa, Georgetown University—1937
Samuel Hazen Shea, George Washington University—1936
Sylvan A. Steiner, George Washington University—1937

For Associate Membership

George John Hageage, Georgetown University—1932
Leland Floyd Hobbs, University of Virginia—1932
Herbert DeGrange Wolff, Jr., University of Virginia—1929

The following applicants for membership will be voted on at the business session, February 12, 1941:

For Active Membership

Clarence Kendall Fraser, Tufts College—1935
Alexander Halperin, Northwestern University—1932
Richard Maurice Rosenberg, Georgetown University—1926
Charles H. Wolohon, College of Medical Evangelists—1928

For Associate Membership

Clara Lucile Hoye, University of Virginia—1934
Jorge G. Ramirez-Duque, Georgetown University—1934

Recent changes in membership status:

Resigned
Active Members

Frederick Leslie Benton
John E. G. McLain

NEWS AND PERSONALS

National Social Hygiene Day will be observed for the fifth time on February 5, 1941, according to an announcement made by Dr. Walter Clarke, Executive Director of the American Social Hygiene Association. This date will mark the beginning of a drive to safeguard men in military and naval training camps and in essential industries from venereal diseases. The effort this year will be aimed particularly toward reducing commercialized prostitution to a minimum, and to keeping syphilitic and gonorrheal infection rates in army, navy and defense industrial personnel as low as possible. Plans are under way to hold more than 5,000 community meetings in all parts of the country, and four regional conferences in Philadelphia, St. Louis, New Orleans and Los Angeles.

Dr. Ray Lyman Wilbur, President of the Association and former Secretary of the Interior, has called upon public and civilian officials to coöperate in making their communities safe from infection.

The American College of Surgeons announces a sectional meeting for March 17, 18 and 19 at Pittsburgh, Pa., with headquarters at the William Penn Hotel. Participating states will be Pennsylvania, Ohio, Virginia, West Virginia, Delaware, Maryland, New Jersey, New York and the District of Columbia. Hospital conferences will be held in connection with the meetings. Fellows of the College, members of the medical profession at large and persons interested in the institutional care of the sick and injured are invited to attend.

The Third Annual Congress on Industrial Health will be held January 13 and 14, 1941 at the Palmer House, Chicago. This meeting is sponsored by the Council on Industrial Health of the American Medical Association.

The American Association for the Study of Goiter again offers the Van Meter prize award of $300 for the best essay submitted concerning an original work related to the thyroid gland. The award will be made at the annual meeting of the Association, which will be held in Boston, May 26–28, provided essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigation, should not exceed 3,000 words in length, must be presented in English, and a type-written, double-spaced copy sent to the corresponding secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pa., not later than April 1, 1941. The essay will be published in the annual proceedings of the Association, but may be published afterwards in any journal selected by the author.

The Mississippi Valley Medical Society offers annually a cash prize of $100, a gold medal and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics) and practical value to the general practitioner of medicine. Contestants must be members of the American Medical Association who are residents of the United States. Contributions shall not exceed 5,000 words, be typewritten in English, and submitted in five copies before May 1, 1941. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society at Cedar Rapids, Iowa, October 1–3, 1941. The Society reserves the exclusive right to first publish the essay in its official publication, the *Mississippi Valley Medical Journal* (incorporating the *Radiologic Review*). Further details may be secured from Dr. Harold Swanberg, Secretary, Mississippi Valley Medical Society, 209–224 W. C. U. Building, Quincy, Illinois.

The Tenth Annual Five-State Postgraduate Clinic of the **District of Columbia Dental Society** will convene at the Mayflower Hotel, May 9–13, 1941. Dr. Walter A. Rath, Chairman of the Publicity Committee, has extended a cordial invitation to members of the Medical Society to attend any meetings which may be of interest to them.

The Section on Neurology and Psychiatry postponed its meeting on January 2 because the seminar for psychiatrists of Medical Advisory and Army Induction Boards was scheduled for the same date. The Section will therefore present its program on Thursday, January 16, 8 p.m., in the Medical Society Building: "The Treatment of Parkinsonism and Allied Disorders with Combined Alkaloidal Therapy," Dr. J. Lloyd Morrow, St. Elizabeths Hospital; "The Hyperactive Child," Dr. John Russell, Catholic University.

The Section on Ophthalmology and Otolaryngology held a dinner meeting December 20 at the Cosmos Club. Dr. Frank Eichenlaub read a paper entitled, "Dermatitis in Otolaryngological Practice." A sound film, "Petrositis," was presented by the makers of Auralgan. Dr. Irvin Hantman displayed an interesting collection of ear photography.

The Society's Speakers' Bureau is coöperating with the Central Y. M. C. A. in its 1941 series of "Health Lectures Toward Healthful Living." The program announced for January is as follows:

January 6: "Your Nose, Throat and Ears and Their Care," Dr. George B. Trible
January 13: "What Everyone Should Know About Heart Disease," Dr. Thomas S. Lee

January 20: "Your Teeth and Their Care," Dr. Daniel F. Lynch
January 27: "Colds, Influenza, Pneumonia," Dr. John R. Cavanagh

Rear Admiral P. S. Rossiter, M.C., U. S. N., Ret., Chairman of the **Committee on Medical Aid of the 1941 Inaugural Committee** has appointed the following members of the Society to assist him in making plans for providing medical care on Inauguration Day, January 20:

Dr. William A. Morgan, *Vice Chairman;* Drs. Walter A. Bloedorn, Daniel L. Borden, James A. Cahill, Jr., George W. Calver, Worth B. Daniels, William Thornwall Davis, William P. Herbst, Howard F. Kane, A. Magruder MacDonald, F. X. McGovern, William Gerry Morgan, Ivy A. Pelzman, Charles Stanley White, Eugene R. Whitmore and Wallace M. Yater.

The Medical Society of St. Elizabeths Hospital will hold its next meeting January 20 at 8 p.m. in the Red Cross House on the hospital reservation. Following a brief business meeting, Dr. William J. Mallory will present a paper entitled, "The Internist Looks at Psychiatry."

The Medical Society of Virginia, Maryland and the District of Columbia held its fall meeting December 4 at the Shoreham Hotel. Participating in a symposium on "The Modern Concept of Pneumonia" were Drs. Theodore J. Abernethy, Oscar B. Hunter, Claude Moore and James A. Gannon. A symposium on "The Diagnosis and Treatment of Acute Osteomyelitis" was presented by Drs. Custis Lee Hall, Guy W. Leadbetter and Martin B. Hiden. Mr. Constantine Brown, foreign news editor of the Evening Star, was guest speaker at the luncheon.

The Women's Medical Society met December 3 at the home of Dr. Anna Bartsch-Dunne with Dr. Elizabeth Sohon as assisting hostess. Dr. Dunne reported on the Third South American Assembly of the Interstate Postgraduate Medical Association of North America. The report was illustrated with scenic slides of South America.

Health Officer George C. Ruhland requests the coöperation of the members of the Medical Society in a communication dated December 31, which reads as follows:

"In view of the prevalence of influenza on the west coast, the legal requirement for reporting this disease in the District of Columbia and the importance of having a current record of its prevalence, the Department asks that the medical profession coöperate most fully in this matter by reporting all cases that come under their professional care.

"Although there is no apparent reason at the moment for apprehension, it is our feeling that the public is entitled to and should have the benefit of accurate figures as to prevalence, and this can be secured only through the coöperation of the profession."

Dr. Daniel L. Seckinger spoke on the development of a year-round **Cancer Control Program** in the District of Columbia at a joint meeting of the Cancer Control Committee of the Medical Society and the Committee on Cancer Control of the Public Health Committee of the Medico-Chirurgical Society, Inc., at Howard University School of Medicine on December 18. Mrs. James C. Carmark, Deputy Commander of the Women's Field Army from Providence, R. I., discussed plans for two divisions of the Women's Field Army in the District of Columbia. Advisability of instructing medical men in the recognition of cancer was also discussed.

Providence Hospital was presented with a $1,600 mechanical respirator on December 3 by Past District Department American Legion Commander William T. Slattery. Thirty-nine American Legion Posts and their Auxiliaries raised the funds necessary to purchase the respirator.

The new **Southwest Health Center** at Delaware Avenue between H and Eye Streets, S.W., was dedicated and opened for inspection on Wednesday evening, December 18, by the District Health Department.

Work on the three-story building, erected at a cost of $200,000, was begun September 13, 1939 and was completed June 12, 1940. Included in the building are a laboratory, a maternal and child welfare, social hygiene, chest and dental clinics.

Dr. Charles B. Campbell, Chairman of the Health Committee of the Federation of Citizens' Associations, delivered the invocation. **Dr. George C. Ruhland** was presented with a certificate of merit by the Southwest Citizens' Association during the dedicatory ceremonies.

The Health Division of the **Washington Council of Social Agencies** held a luncheon meeting December 16 to discuss ways and means of obtaining proper medical and surgical aid for Washington's crippled children. Among the speakers were Drs. George C. Ruhland, O. Anderson Engh, Milton M. Greenberg and Robert E. Moran.

Dr. Arthur C. Christie has resigned as chairman of the Public Health Committee of the Washington Board of Trade and will be succeeded by **Dr. Roy Lyman Sexton.**

In making this announcement to members of the Public Health Committee, Mr. James E. Colliflower, President of the Washington Board of Trade, expressed his appreciation of Dr. Christie's services. He said, "The sound and constructive recommendations which emanated from your Committee are a tribute to his unselfish devotion to the welfare of Washington."

Dr. Russell J. Fields attended the annual meeting of the American Academy of Dermatology and Syphilology held in Chicago, December 6–8, 1940, and was awarded a certificate of proficiency from the American Board of Dermatology.

Dr. Custis Lee Hall received a silver tray and candelabra from the Kiwanis Club December 15 in recognition of his sixteen years' service in treating crippled children in the Kiwanis clinic. The occasion was the Club's annual Christmas party held at the Roosevelt High School. Dr. Hall has retired from active practice in the Clinic but will continue in an advisory capacity.

Dr. Charles S. White gave a lecture on surgery December 16 at Vassar College, where his daughter is a student.

Dr. Eugene Forcione was elected treasurer of the Italian Arts Club on December 11.

Major Gist Blair, President of Emergency Hospital, died December 16 at his home, 1651 Pennsylvania Avenue, N.W.

Major Blair was born September 10, 1860 in Washington, the son of Montgomery Blair, Postmaster General under President Lincoln. He was educated at Emerson Institute, George Washington University and Princeton University. He practiced law here for almost 25 years. He was an Army Major during the World War, serving as one of the 24 judge advocates in the Provost Marshal General's office. He was a trust officer in the National Savings and Trust Company for five years and president of the Board of Directors of Emergency Hospital since 1937.

BOOK REVIEWS

Cancer in Childhood and a Discussion of Certain Benign Tumors. Edited by Harold W. Dargeon, M.D., F.A.C.P., Attending Pediatrician, Memorial Hospital for Cancer and Allied Diseases. Pp. 114, with 51 illustrations. Price, cloth, $3.00. St. Louis: Mosby, 1940.

This book represents the collective effort of members of various departments of the Memorial Hospital for Cancer and Allied Diseases. There are two introductory chapters which serve to orientate the reader, one by Dr. James Ewing and the other by the editor. The chapters are made up of articles all previously published in the *Journal of Pediatrics* and include tumors of bone, the leukemias and allied diseases, genitourinary cancer, gynecologic cancer, cancer of the head and neck, blood and lymph vessel tumors, and tumors of the soft somatic structures. There is some slight imbalance which usually creeps into compiled works; some of the discussions are detailed while others are quite sketchy.

Although several reviews of the subject have been written, most of them include cases up to 30 years of age. When this is done, a large group falling into the third decade obscures the features of the smaller but more characteristic group under the age of 16 years. The large number of malignant neoplasms which have no counterpart in the adult are thoroughly discussed. This should correct the assumption that many have had, that childhood cancer is merely a modification of the disease as it occurs in the adult.

This book is written especially for the pediatrician and should appeal to everyone in this field. The illustrations are good.

Since the large majority of malignant growths which occur in children are sarcomas, and therefore sarcoma occupies a large part of the volume, I wonder why the word "Cancer" is used in the title.

J. M. B.

Mental Therapy—Studies in Fifty Cases, 2 vols. Louis S. London, M.D. Price $12.50. Pp. 427 and 774. New York: Covici-Friede, 1937.

The modern physician, trained as he is almost entirely in physical sciences, finds it difficult to grasp the conception that a physical disease may be caused by psychic factors. It is this that explains the strong resistance that the medical profession has until recently shown toward the understanding of things psychiatric. Along with this, all sorts of complaints are made against psychiatry. "How can we, with all our willingness, possibly understand your conceptions, if you do not furnish us with any case material on the basis of which alone, understanding is possible?" It is only a few years ago that a very reputable physician (H. Hyman, J. A. M. A., August 1, 1936) made the statement to the effect that the general practitioner is unable to learn much about psychiatry because case material is not available for study. In point of fact, this statement is not correct, even if judged by general medical standards; only that the case material in question is not found in medical journals that are ordinarily accessible to the general practitioner, but in special journals. It is not that psychiatrists are not in possession of such cases or are unwilling to send these for publication, but that medical journals by and large will not accept such cases when sent in. It is only recently that the reviewer sent in to a reputable journal a case of pneumonia in which the psychogenetic aspects were discussed. The paper was returned with the statement, "Very interesting indeed, but we can't accept it." If, however, Dr. Hyman or others had been willing to go to such journals that deal with psychiatric problems, there is really no dearth of case material. Easily, more than half of the material published in such journals is case material; of the balance, the larger part consists of discussions based on clinical case material. The actual amount of purely theoretical material is small.

Be that as it may, with the appearance of Dr. London's two-volume book on Mental Therapy, there is no valid reason to have even such excuses, for here we have presented in great detail no less than 50 cases dealing virtually with all aspects of psychiatry and psychotherapy: the functional neuroses and psychoses. One section deals with hysterical neuroses of the conversion type. Here we have cases demonstrating so-called cardiac neuroses, gastric neuroses, and other physical diseases for which there appears to be a definite psychogenic etiology. Interesting in this connection are the cases of anxiety neuroses associated with sexual impotence and frigidity. Impotence and frigidity, rather than being exceptions, are, one might say, quite universally the rule in neuroses. One might say that not only in anxiety neuroses, but in virtually every neurosis, a sexual difficulty may be found. It may manifest itself by direct impotence reaction or by some other complicated difficulty which brings about the same results.

Another section of the book deals with what has come to be known as the paraphiliac neuroses (the perversions). Perhaps the commonest example of this is homosexuality, against which the average physician carries an unreasonably strong prejudice, but which must be regarded as a disease curable by psychotherapeutic means. Genetically related to homosexuality are a great variety of reactions. Here we have instances of sadism and masochism, nymphomania and satyriasis, fetishism and transvestitism, illustrations of all of which are to be found in the two volumes. Very difficult of handling, but by no means impossible, are cases of latent homosexuality; and here one sees the intimate psychogenetic relationship that exists between the paraphiliac neuroses on the one hand and the purely hysterical neuroses on the other hand. For, one doesn't go far in the study of paraphiliac neuroses before he comes across all sorts of psychosomatic manifestations. One sees cases of latent homosexuality with cardiac, gastric and other somatic manifestations, and it then becomes more or less an arbitrary matter whether the cases should be put under the heading of paraphiliac or hysterical neuroses. These two groups comprise a total of 28 cases. In the third group, Dr. London takes into consideration the obsessional and compulsive neuroses. In common with established tradition, he entitles this section as "Borderline Neuroses." Here, besides obsessional neuroses proper, he discusses schizophrenic manifestations in neuroses. The reviewer has never quite been able to accept this idea of "Borderline Neuroses." He sees nothing "Borderline" about them. They are just as clearly, definitively, and precisely, neuroses as even the most typical neuroses, and to the reviewer's way of thinking, the supposed presence of schizophrenic material is nothing but a presumption. When one studies the material more closely, it turns out that the so-called schizophrenia is really not schizophrenia, but hysterical disassociation phenomena, which is quite a different matter. Neuroses and psychoses do not pass into one another. Dr. London does not discuss this matter, but merely takes it as an established fact that neuroses passes into psychoses and vice versa. Since he doesn't discuss it, there is obviously very little to argue about. The reviewer, however, keeps his own mental reservations that the reader should have been entitled to a discussion of that.

The next two chapters deal with what one might call the pure psychoses. One section deals with schizophrenia. Here nine cases are reported in fine detail. With the exception of Kempf's work, the reviewer does not know of any other work that gives such complete exposition of the psychoses as this work of Dr. London's. The other section deals with manic depression psychoses. mostly depressed and mixed types.

It is difficult within the limits of short review to express even briefly the tremendous amount of highly valuable material that is contained in these two volumes. Cases after cases are presented with often complete exposition of the mechanisms found. There is a liberal incorporation of dream material with interpretations that do not violate one's common sense. In view of the fact that most psychoanalysts are rather shy of treating psychoses, Dr. London's efforts in that direction are exceptional and deserve high commendation.

Having spoken of the valuable aspects of this work, it is only fair to tell of some of its negative aspects. The book is badly edited; so bad, in fact, that it mars the undoubted value that is spread in its pages. While it is beautifully printed and easy to read, there are many mistakes and repetitions. Even the grammar is sometimes bad. One gets the impression that the publishers have forced the author to rush through the manuscript in order to have it out by a certain date. At any rate the reading of it sometimes makes a bad impression. That, however, should not invalidate the excellent content of the case material, and, if the reader is willing to overlook these shortcomings, he will find a veritable gold mine of information; less of theoretical value than of practical significance, for these are the types of cases the physician meets with in private practice; cases of which he often doesn't recognize the value and significance, and when he recognizes their meaning, is often puzzled as to what to do about it. The book is heartily recommended for very careful and serious perusal.

B. KARPMAN

(*Continued from page 10*)

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STUDIES ON OXYURIASIS. IX. THE FAMILIAL NATURE OF PINWORM INFESTATION*

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Of the various helminths which parasitize man, the pinworm (*Enterobius vermicularis*) probably is more intimately associated with man throughout its entire life history than is any other species. Of other nematodes of man, ascarids, hookworms, Trichuris, and usually Strongyloides have a longer period of development before their eggs or larvae are infective; that development is usually undergone outside the household, and infection usually takes place through the medium of soil or water. Trichinae are acquired through the medium of another host, usually swine, the flesh of which is ingested by man. Filarids are transmitted to man by a biting insect which serves as an intermediate host. Of the cestodes of man, the beef, pork and fish tapeworms have relatively long periods of development in the secondary hosts; in certain respects the dwarf tapeworm, *Hymenolepis nana*, approximates the pinworm in the speed of development of its eggs and the possibility of direct infection from person to person, but the fact that the transport of the eggs of this tapeworm is via the feces and that rats and mice are additional hosts of importance in its spread to man precludes its consideration as a parallel case with that of the pinworm. The life cycle of the trematodes parasitizing man also involves intermediate hosts and acquisition of the infection outside of the household.

Consequently we may consider as unique the manner in which the eggs of the pinworm are disseminated and infection acquired. The migration of the female pinworm through the anus, the deposition of its eggs on the skin of the perianal region, and the development of the eggs to infectivity within 6 hours under the conditions of temperature and humidity which are present in that region are factors which facilitate reinfection of an individual. The spread of the infection to other individuals is facilitated by the sifting of the pinworm eggs through the meshes of clothing and bed linen and the transport of the eggs by air currents to household objects, as well as by more direct contamination of objects which are handled by the infected individual or of surfaces, such as toilet seats and tubs, with which the body comes in close contact. Obviously most of the sanitary provisions which successfully prevent the spread of fecal-borne parasitic infections are ineffective in the case of this species. Consequently the pinworm is the most common of the worm parasites of man at all social-economic levels.

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* A preliminary note by this title was presented before the American Society of Tropical Medicine, 33rd Annual Meeting, December 1, 1937, New Orleans, La. Subsequent to that date the use of the term "infection" in place of "infestation" has been adopted in accordance with the recommendations of the American Society of Parasitologists; hence the inconsistency in the use of the one term in the title and the other term in the text of the present paper.

There have been reports from physicians in this country of entire families being infected with pinworms; in Europe special investigators have put considerable emphasis on this phase as also on other phases of oxyuriasis. The familial nature of this parasitic infection therefore has been recognized for some time. However, from a clinical point of view little attention has been paid to this very important point as regards its relation to therapy; usually physicians have treated the individual case without giving consideration to the possibility of there being other infected individuals in the family and to the probability of prompt reinfection.

To my knowledge, no report has been made which provides information from a large population group as to how frequently multiple cases do occur in a family, as to how frequently the parents as well as the children are infected, and as to how difficult or how easy it may be to determine the familial extent of the infection.

During the past four years, in connection with an investigation of the epidemiology of oxyuriasis, observations of this nature have been made. To date, there have been examined a total of four thousand persons residing in or near Washington, D. C. In this number were persons of both sexes, all ages, and of both the white and Negro races; the majority were outpatients seen at a parasite clinic at Providence Hospital, but there were also included members of several nursery schools and camps, some recently hospitalized persons and a few patients of private physicians. No institutionalized persons are included in this number. Previous reports[1, 2] made during the course of the investigation have failed to show any appreciable difference in infection in the two sexes, but an age correlation was indicated in that incidence of pinworms in adults was a little less than half that in children of school age, whereas the incidence in children of preschool age was intermediate between the two. As to race, Negroes have shown a lower incidence than have white persons. Specifically the findings to date on the four thousand persons referred to above are as follows: A total of 1,202 of 2,895 white persons, or 41.5 per cent, and 142 of 1,099 Negroes, or 12.9 per cent, were positive for pinworms.

In the case of persons coming to the parasite clinic and also those referred by private physicians, in addition to examining the individual suspected of having pinworms, a practice was made of securing examinations on as many members of the family of that individual as was possible. NIH swabs were provided for use at home, with instructions that they should be used the first thing upon arising in the morning. As a result, in 320 families in which pinworm infection was found in an individual, examinations were made on additional members of the family. It is proposed here to discuss the findings on a total of 1,525 persons examined in those 320 families, a total of 5,539 swab examinations having been made.

Limitations to Interpretation of Data

The diagnosis of pinworm infection, especially of light cases, is frequently very difficult, because of the fact that the pinworm has only a single brief period of oviposition, terminating its life, and because oviposition occurs on the external surface of the body, in contradistinction to the prolonged period of production and deposition of eggs in the lumen of the intestine that is habitual for other intestinal helminths. Therefore, failure to find pinworm eggs does not rule out the possibility of infection. If percentage of infection is computed from positive findings, the figures indicate the minimum rate of infection; the actual rate would undoubtedly be higher if there were more reliable diagnostic tests. In addition to the difficulties encountered because of this limitation, there were many variables in procedure in the present investigation. An attempt was made to secure at least 4 swabs on each person made on consecutive days, but frequently it was not possible to do so; many different persons made the swabs and different time periods elapsed between examinations. The data are not suitable for a statistical analysis, but it is thought that observations relative to pinworm cases which were detected may be of value in calling attention to the fact that consideration should be given to the entire family, if one member is known to be infected.

TABLE 1

NIH swab examinations for pinworms (Enterobius vermicularis) in 320 families

	WHITES			NEGROES			BOTH RACES		
	286 families			34 families			320 families		
	Children	Adults	All ages	Children	Adults	All ages	Children	Adults	All ages
Total in families	924	618	1,542	126	81	207	1,050	699	1,749
Total examined	860	493	1,353	114	58	172	974	551	1,525
Total positive	618	179	797	58	4	62	676	183	859
Per cent positive	72	36	59	51	7	36	69	33	56
Number swabs made	3,144	1,796	4,940	413	186	599	3,557	1,982	5,539
Average swabs per person	3.7	3.6	3.7	3.6	3.2	3.5	3.7	3.6	3.6
Positive swabs	1,193	325	1,518	116	6	122	1,309	331	1,640
Per cent positive swabs	38	18	31	28	3	20	37	17	30
Negative swabs									
On positive persons	1,035	369	1,404	104	8	112	1,139	377	1,516
Average per positive person	1.7	2.1	1.8	1.8	2.0	1.8	1.7	2.1	1.8
On negative persons	916	1,102	2,018	193	172	365	1,109	1,274	2,383
Average per negative person	3.8	3.5	3.6	3.4	3.2	3.3	3.7	3.5	3.6

RESULTS OF EXAMINATIONS

As noted above, the total number of Negroes examined was much smaller than the number of white individuals. To this disparity in the size of the two racial groups examined was added the disparity in the frequency with which pinworm infections were detected. Consequently there were available only 34 Negro families, known to contain pinworm cases, as compared with 286 white families. Particulars concerning the group as a whole are recorded in table 1; in tables 2 and 3 the findings have been analyzed according to the familial distribution. The extent of infection in children of the family is correlated with the findings from examinations made on adults, and these are further correlated with the occurrence of single and of multiple cases of pinworm infection in the families in both races.

RESULTS AMONG WHITE PERSONS

As shown in table 1, in the 286 white families there was a total of 1,542 persons, of whom 924 were children and 618 were adults, or an average of 3 children to 2 adults. Examinations were made on 860, or 93 per cent, of the children and on 493, or 80 per cent, of the adults. The incidence of pinworms found in children was twice as great as that found in adults, 72 per cent of 860 children and 36 per cent of 493 adults being positive as a result of 4,940 swab examinations, an average of 3.7 swabs per child and 3.6 swabs per adult having been made.

The familial distribution of the 797 cases of pinworm infection which were detected is given below.

FAMILIES WITHOUT CHILDREN; ADULTS POSITIVE

Among the 286 families there were 4 families without children. Of 11 adults examined, 5 were positive, as follows:

In 1 family, man and wife examined; both positive. Of 4 swabs per person, 3 positive,

TABLE 2

Distribution of 792 pinworm cases among children and adults in 282 white families

	NUMBER OF FAMILIES	NUMBER PERSONS EXAMINED	NUMBER PERSONS POSITIVE	POSITIVE SWABS	NEGATIVE SWABS		TOTAL SWABS
					On positive persons	On negative persons	
All children of family examined; all positive							
Children	125	316	316	676	549		1,225
Adults							
2 parents positive	39	78	78	141	156		297
1 parent positive	33	66	33	62	106	204	372
Extra adults positive	33	5	3	6	5	8	19
Adults negative	46	89				311	311
Adults not examined	7						
Total	125	238	114	209	267	523	999
All examined children positive but not all children examined							
Children	14	39	39	61	41		102
Adults							
1 parent positive	3	3	3	4			4
Adults negative	5	9				18	18
Adults not examined	6						
Total	14	12	3	4		18	22
Some but not all examined children positive							
Children	138	496	263	456	445	867	1,768
Adults							
2 parents positive	8	16	16	32	13		45
1 parent positive	33	66	35	61	74	107	242
Adults negative	81	142				425	425
Adults not examined	16						
Total	138	224	51	93	87	532	712
Children negative							
Children	5	9				49	49
Adults							
2 parents positive	1	2	2	3	3		6
1 parent positive	4	6	4	7	2	7	16
Total	5	8	6	10	5	7	22
Total							
Children	282	860	618	1,193	1,035	916	3,144
Adults	282	482	174	316	359	1,080	1,755
Grand total	282	1,342	792	1,509	1,394	1,996	4,899

1 negative, on either person.

In 3 families, 9 persons examined; 3 positive (1 of 5 males; 2 of 4 females). An average of 3.7 swabs per person. On 3 positive persons, of 11 swabs, 3 positive, 8 negative; on 6 negative persons, 22 negative swabs.

The results of examinations in the 282 families which contained children, as shown in table 2, were as follows.

ALL CHILDREN OF THE FAMILY EXAMINED AND ALL POSITIVE

In 125 families 100 per cent of the children of the family were found to be infected with pinworms; 316 children in these families were examined with 1,225 swabs, an average of 3.9 swabs per child. The sizes of these families were as follows: with 1 child, 29 families; with 2 children, 41 families; with 3 to 8 children, 55 families with a total of 205 children.

As regards adults in these 125 families, in 7 of the families, containing 15 of the positive children, adults were not examined; one or both parents were found positive in 72 of the remaining 118 families. The distribution was as follows: In 39 families both parents, as well as all children, were positive; in these families was a total of 121 children, or an average of 3.1 children per family. On the 78 adults an average of 3.8 swab examinations was made.

In 33 families 1 parent was positive; in these families were 84 children, an average of 2.5 children per family. In 10 of these families the father, and in 23 the mother, was found infected. Swab examinations averaged 4.9 per positive person and 6.1 per negative person. In 5 of these 33 families additional adults were examined and in 3 families an adult other than the parents also was positive, in 2 cases a maid (white) and in 1 case an uncle of the children.

In 46 families adults were negative on examination; 89 adults were examined, with an average of 3.5 swabs per person. The number of children in these families was 96, or an average of 2.1 children per family.

ALL EXAMINED CHILDREN POSITIVE BUT NOT ALL CHILDREN OF THE FAMILY EXAMINED

In 14 families in which we failed to secure examination of all children of the family, pinworm infections were found in 100 per cent of those examined. The total number of children in the families was 69; 30 of the children were not examined, these for the most part being on the one hand young infants and on the other hand children 14 to 18 years of age who refused swab examination. An average of 2.6 swabs was made on each of the remaining 39 children, all of whom proved to be infected with pinworms.

In 6 of these 14 families adults were not examined. In 3 of the remaining 8 families one parent, the mother, was found to be infected; the father was not examined. In the remaining 5 families, 4 fathers and 5 mothers were negative on an average of 2 swab examinations apiece.

SOME BUT NOT ALL EXAMINED CHILDREN POSITIVE

In the remaining 138 families in which pinworm cases were found in children, there were 530 children, 496 of whom were examined; 263 children, or 53 per cent, were found positive, on an average of 3.4 swabs per positive child. On each of the 233 "negative" children there was made an average of 3.7 swabs apiece.

In 16 of the 138 families adults were not examined; one or both parents were found to be positive in one third of the remaining 122 families, as follows: In 8 families both parents were positive, an average of 2.8 swabs per person having been made. In 33 families 1 parent was positive; of 66 adults examined, 35 were found infected, as follows: Of 27 fathers examined, 7 were positive; of 33 mothers examined, 26 were positive. Examinations were also made on 6 women in addition to the mothers of the children; pinworm infections were found in 2 of these women, one a roomer in the household, the other the great-grandmother of the children. An average of 3.7 swabs per person was made. In the 81 families in this group in which examinations of adults gave negative results, 142 adults were examined, 50 males and 92 females, the latter number including the 81 mothers and 11 additional women in the households; an average of 3.0 swabs per adult was made.

CHILDREN NEGATIVE AND PARENTS POSITIVE

In 5 families with a total of 9 children, or an average of 1.8 children per family, negative results were obtained on examination of an average of 5.4 swabs per child. In one of these families both parents were positive, 3 swabs apiece having been made. In the remaining 4 families 1 parent was found to be infected, in each case the mother, on whom an average of 2.3 swabs was made; 2 of the fathers were examined with negative results, with an average of 3.5 swabs apiece.

FAMILIES WITH A SINGLE CASE AND WITH MULTIPLE CASES OF PINWORM INFECTION

As regards the relative frequency with which pinworm infection was found to extend to more than 1 person in a family, in 216 of the 286 white families the infection was not limited to a single case. The familial distribution of the 70 single cases and of the multiple cases was as follows: In 3 of the 4 families without children, a single case was discovered; in the remaining family, 2 adults were positive. Of the 125 families (table 2) in which all children were positive, there were 16 families in which only a single case was found, the positive person being an only child. In each of the remaining 109 of the 125 families, more than 1 case was found; the remaining 300 positive children, as well as the 114 positive adults, or a total of 414 infected persons, an average of 3.8 per family, belonged to these families. A single case was found in 1 of the 14 families in which all examined children were positive but not all children were examined; in each of the remaining 13 families were found multiple cases, 38 positive children and 3 positive adults, or a total of 41 infected persons, an average of 3.2 per family. On the other hand, a single case was found in 46 or one third of the 138 families in which some examined children were not positive; in each of the remaining 92 families there were multiple cases, 217 children and 51 adults, a total of 268 positive persons, an average of 2.9 per family. A single case of infection in an adult was found in 4 of the 5 families in which all children were negative; in the remaining family 2 adults were positive.

Summarizing these findings, of the 70 families in which a single positive case was found, it was a child who was infected in 63 families and an adult in 7 families. In the remaining 216 families with multiple cases, there were 555 children and 172 adults, a total of 727 persons or an average of 3.4 persons per family, who were found to be infected.

RELATIVE NUMBER OF POSITIVE AND NEGATIVE SWABS FROM INFECTED PERSONS

The distribution of positive and negative findings on swab examinations of infected persons, summarized from table 2, was as follows: In the 139 families in which all children who were examined were found to be infected, of a total of 1,327 swabs examined, 737 swabs, or 56 per cent, were positive; in the 138 families in which there were some children who remained negative on examination, the positive children showed that of a total of 901 swabs examined, 456 swabs, or 51 per cent, were positive. As regards adults, considering the 5 childless families discussed above, as well as those with children (table 2), in the 49 families in which 2 adults were found infected, of a total of 356 swabs examined, 182 swabs, or 51 per cent, were positive; in the 76 families in which 1 adult was found infected, of a total of 327 swabs made on those positive persons, 137 swabs, or 42 per cent, were positive. Thus, there were relatively more negative swabs obtained from positive adults than from positive children, as shown also in table 1; possibly this may indicate lighter infections and therefore more difficulty in diagnosis in the case of adults than in children. If this is true, the so-called "negative" adults were even less thoroughly examined than would be indicated by the discrepancy of an average of 3.8 swabs per negative child and 3.5 swabs per negative adult.

RESULTS AMONG NEGROES

As shown in table 1, of a total of 172 Negroes examined, 62 Negroes, or 36 per cent, were found infected with pinworms. Of the children, 58 out of 114, or 51 per cent, and of the adults, only 4 out of 58, or approximately 7 per cent, were positive; 599 swabs were made, an average of 3.6 swabs per child and 3.2 swabs per adult.

NEGRO MAIDS IN PINWORM-INFECTED WHITE FAMILIES

At the time of examination of members of 7 of the white families included in this investigation, a Negro maid in each family was also examined; no case of pinworm infection was found among these 7 Negroes. A total of 26 swabs or an average of 3.7 swabs per maid was examined.

Examination of the remaining 165 Negroes furnished information relative to the familial distribution of pinworm infections in 34 Negro families. In these families were 200 persons, including 126 children and 74 adults. Examinations were made on 114, or 90 per cent, of the children and on 51, or 69 per cent, of the adults.

ALL CHILDREN OF THE FAMILY EXAMINED AND ALL POSITIVE

As shown in table 3, in 10 families with a total of 24 children, pinworm infections were found in all children; 86 swabs, or an average of 3.6 swabs per child, were examined. Fifty-five per cent of the swabs were positive. The sizes of the families were as follows: with 1 child, 1 family; with 2 children, 6 families; with more than 2 children, 3 families, with a total of 11 children. Adults were not examined in 2 of these families. Of the remaining 8 families, in each of 2 families 1 parent was found positive; in 1 case the positive adult was the father, the mother being negative on 4 swabs, and in the other case the mother was positive while the father was not examined. In 6 families no pinworm cases were found among 8 adults examined with an average of 3.1 swabs apiece.

SOME BUT NOT ALL EXAMINED CHILDREN POSITIVE

In 22 families having a total of 99 children, 87 of the children were examined and 34 were found positive for pinworms, on an average of 3.9 swabs per positive child. On each of the "negative" children an average of 3.4 swabs was made. In 4 of these families adults were not examined. In the remaining 18 families, 36 adults were examined, with negative results; a total of 109 swabs was made, an average of 3.0 swabs per person.

CHILDREN NEGATIVE AND PARENTS POSITIVE

In 2 families, one with 1 child and the other with 2 children, a total of 15 swabs or an average of 5 swabs per child failed to show pinworm infections in the children, whereas in both families the mothers of the children were found positive from the examination of 7 swabs, or an average of 3.5 swabs apiece.

NEGRO FAMILIES WITH A SINGLE AND WITH MULTIPLE CASES OF PINWORM INFECTION

Of the 34 Negro families in which 62 cases of pinworm infection were detected, a single case was found in 19 families and multiple cases, a total of 43 cases or an average of 2.9 per family, in the remaining 15 families. The distribution was as follows: Of the 10 families in which all children were positive, 1 family had a single case and the remaining 9 families had 25 cases or an average of 2.8 per family. Of the 22 families in which only some but not all of the children were positive, 16 families had a single case and the remaining 6 families had 18 cases, an average of 3 per family. In each of the 2 families in which children were negative, a single case was found, in the mother, as noted above.

RELATIVE NUMBER OF POSITIVE AND NEGATIVE SWABS FROM INFECTED NEGROES

As noted in table 3, on the 58 positive Negro children a total of 220 swabs were made, of which 116 or 53 per cent were positive. On the 4 positive Negro adults a total of 14 swabs were made, of which 6 or approximately 43 per cent were positive.

TABLE 3

Distribution of 62 pinworm cases among children and adults in 34 Negro families

	NUMBER OF FAMILIES	NUMBER PERSONS EXAMINED	NUMBER PERSONS POSITIVE	POSITIVE SWABS	NEGATIVE SWABS		TOTAL SWABS
					On positive persons	On negative persons	
All children examined; all positive							
Children	10	24	24	47	39		86
Adults							
1 parent positive	2	3	2	3	4	4	11
Adults negative	6	8				25	25
Adults not examined	2						
Total	10	11	2	3	4	29	36
Only some examined children positive							
Children	22	87	34	69	65	178	312
Adults							
Negative	18	36				109	109
Not examined	4						
Total	22	36				109	109
Children negative							
Children	2	3				15	15
Adults							
1 parent positive	2	4	2	3	4	8	15
Total							
Children	34	114	58	116	104	193	413
Adults	34	51	4	6	8	146	160
Grand total	34	165	62	122	112	339	573

DISCUSSION

In spite of the limitations of the data in the present investigation, the evidence is conclusive that oxyuriasis should be viewed as a familial infection, since infection in 1 person in the family will probably be accompanied by infection in some or all other members of the family. If it had been possible to use a more standardized technic of examination to eliminate variable factors such as the number of swabs made per person, the skill with which they were made, and so forth, and if coöperation of some of the families had been better, a higher incidence of pinworms unquestionably would have been found. Investigating the efficiency of the NIH swab, Sawitz, Odom and Lincicome[3] found that at least 7 swab examinations were necessary before one could feel assured that all cases had been detected; in the present investigation the average was only about one half that number. Persons, although negative on examination, may nevertheless be infected with immature stages of the parasite and diagnosis of the infection is impossible at that stage; this is of significance as regards therapy. D'Antoni and Sawitz[4] found in an institution that some persons previously negative on examination and therefore left untreated gave positive swabs during a survey made after treatment of the other individuals.

Undoubtedly various factors influence the extent of familial infection. Although the majority of the pinworm-positive families of the present study were of low social-economic status, there was a considerable number classed as of median or high status. Because of less crowding and better sanitary facilities in the latter class of homes, there would undoubtedly be less rapid spread of the pinworm infection within the home after it had been introduced by an outside contact, but because of the enormous numbers of eggs produced by the pinworm,[5] household contamination may be heavy,[6] so that persons who apparently remain uninfected are a cause for surprise rather than vice versa. On the other hand, in the families here considered there was some evidence of individual resistance, although the cases could not be followed over a sufficiently long time for the evidence to be conclusive. For example, in 40 families all children except 1 in each family were positive for pinworms; on the 40 "negative" children there were 2 to 10 swabs apiece, a total of 175 swabs or an average of 4.4 swabs per child. In 7 of these families, with 30 children and 15 adults, not only all children except 1 in each family were positive, but all adults also were positive. These apparently resistant children did not fall predominantly in any one age group; the ages ranged from 2 months to 15 years. However, evidence for such resistance in the present study is conditioned by the possibility of failure in diagnosis and an additional number of swabs on the seemingly noninfected persons might have disclosed infection.

Concerning the extent of the infection among children as compared to adults, pinworms were found in 72 per cent of the children and in 36 per cent of the adults examined, that is, the infection was twice as prevalent among children as adults. This age correlation in these pinworm infected families corresponds to that reported for persons of the general population of Washington, D. C.[1]

As regards the size of the family, in the 282 families with children there were 924 children and 607 adults, a total of 1,531 members, or an average of 5.4 members per family; there was an average of 3.3 children per family. In the 139 families in which 100 per cent of examined children were found infected, the average number of children was 2.8 per family, which was less than in the 138 families in which only some of the examined children were positive, the average in the latter being 3.8 children per family. There was no evidence that the pinworm cases discovered in parents occurred predominantly in large families; in the 47 families with both parents positive there was an average of 3.1 children per family; in the 73 families with 1 parent positive, an average of 3.0 children; and in the 133 families in which examinations of parents gave negative results, an average of 3.2 children per family.

As regards distribution of the two sexes among the persons examined in the present investigation, no analysis has been made in the case of the children, since previous investigations did not indicate that sex was a factor of significance in pinworm infection; with respect to the adults, although the number of swab examinations have not been analyzed according to the sex of the individuals, the findings were kept separate; that is, of a total of 210 males examined, 67 or 32 per cent were positive, and of a total of 283 females examined, 110 or 39 per cent were positive. In most cases much better coöperation was furnished by the mothers than by the fathers of the children; I consider the number of swab examinations made on adults was inadequate to detect all cases of pinworm infection, as has been noted previously, and of the adults the males were less adequately examined than were the females.

As regards comparative findings in the white and Negro races, the difference in size of the family groups is great, but the lower incidence in Negroes than in white persons conforms to findings published previously.[2] The possibility of a racial correlation deserves further attention.

SUMMARY

During the past 4 years, 4,000 persons of the general population of Washington, D. C. and vicinity have been examined for pinworm infection by the NIH swab technic; the parasite was found in 42 per cent of 2,900 white persons and in 13 per cent of 1,100 Negroes. From part of the data secured in that connection, it has been possible to obtain information relative to the familial extent of the infection in 320 families, in each of which examinations were made on more than 1 member of the family and the infection was found in at least 1 member of the family. In these families, 1,525 persons were examined; 5,539 swabs were made, an average of 3.6 swabs per person. In the 286 white families, pinworm infections were found in 72 per cent of the children and 36 per cent of the adults, and in the 34 Negro families, in 51 per cent of the children and only 7 per cent of the adults. Due to the limitations in the method of examination and the inadequacy in the number of swabs necessary for the detection of all cases of infection, it was impossible to obtain a complete picture of the familial extent of the infection. However, in the white families multiple cases in a family were the rule rather than the exception; in only 70 of the 286 families, or 1 out of 4, was the evidence of infection confined to a single case, whereas in the remaining 216 families there was an average of 3.4 positive persons per family. On the other hand, in slightly over one half of the Negro families only a single case was found. As a whole, there was a lower incidence in the Negro families than in the white families, the difference being especially marked in the adults; therefore, although the number of pinworm-positive Negro families available for study was small in comparison to the number of white families, the difference in the familial extent of the infection in the two races conforms to differences in incidence found in the entire survey.

There was a substantial number of white families, in fact almost one half of the families in which examinations were made, in which all children who were examined were found positive; in the remaining families evidence of infection was found in more than one half of the children examined. One or more adults were found infected in 125 of 257 families in which adults were examined; all adults in the family were positive in 49 families. Quantitative evidence is therefore furnished that oxyuriasis is frequently a familial infection, a phase of the subject which is of great importance in connection with therapy and prophylaxis.

As regards the frequency with which positive swabs were secured from infected individuals, pinworm eggs were found on 54 per cent of the swabs made on infected white children and on 53 per cent of those on infected Negro children, as compared with 47 per cent and approximately 43 per cent of those on infected white and Negro adults, respectively. The findings emphasize the necessity of multiple swab examinations in the diagnosis of oxyuriasis.

ACKNOWLEDGMENTS

It is impossible to acknowledge our indebtedness specifically to all the persons who have aided during the past four years in the study of the epidemiology of oxyuriasis, of which the present paper is a part. However, we wish especially to express appreciation to the staff of Providence Hospital, where Sister Rosa, Superintendent, and Sister Christine, in charge of the dispensary, have at all times generously furnished the facilities of the Outpatient Department and where the Social Service Department has lent most efficient aid in many ways; to Dr. Margaret M. Nicholson and to several other private physicians; to officers, physicians and nurses of the Metropolitan Police Boys Club and of the Jewish Community Center; and to Miss Gertrude Rinehart, R. N., and other nurses formerly connected with the W.P.A. Nursery Schools.

(*Continued on page 77*)

THE CLINICAL AND ELECTROCARDIOGRAPHIC FINDINGS IN THE AGING HEART*

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It is now commonplace to admit that the diseases peculiar to old age are becoming of increasing importance in this country. The triumph of pediatrics has resulted in a growing challenge to geriatrics. A paradoxical situation exists. Our people have largely succeeded in their attempt to grow old and are now much concerned about the fact that they are dying of old age diseases. Each person is then, in part, a gerontophile, and on the other hand a gerontophobe. That is, perhaps, not inconsistent with a desire to grow old comfortably. Benjamin Rush, over a hundred years ago, believed that the factors in longevity of greatest importance were "heredity, temperance, mental vigor, equanimity, and marriage." He stated that he had met only one unmarried person over the age of eighty years. This formula, I suppose, is still as good as any, but I am afraid that there are many exceptions. Today, however, we are not concerned with the various formulae for growing old, but with the recognition of what we may call the "normal" old age changes in the circulation, and the "abnormal" or accelerated age changes to be found in younger individuals in the heart and blood vessels.

It has been pointed out that a decrease in cardiovascular disease would add most to man's life expectancy. Dublin states that in 1930, abolition of all deaths from cardiovascular-renal disease would have added 7.2 years to the average life of white males, and 7.5 years to the average life of white females, whereas the disappearance of all deaths from cancer at that time would have added only 1.1 years to men, and 1.8 years to the average life of women.[1]

But any notable decrease in deaths from cardiovascular disease is unlikely, because, as Warthin has emphasized, normal or biologic death is essentially cardiovascular death. This is true even though relatively few men attain biologic death as contrasted with the lower animals. Our problem today, then, divides itself into two parts. We must discover first if biologic senescence has a cardiovascular pattern which we can recognize clinically, and second, we must attempt to decide when accelerated senescence becomes pathologic, that is, when old age becomes a disease, and function normal to a given individual or age group is prematurely disturbed by structural change. I shall omit a consideration of hypertension since this condition presents at once a significant, though not always serious, evidence of vascular disease on examination.

We are faced at the outset with one of the most puzzling questions, and that is, what is normal? We must decide the limits of normality, or ask the question, "Abnormal in relation to what?," since the changes incident to growing old start at birth and are essentially a continuous process. To one struggling with this decision, the book edited by Cowdry, published last year, furnishes a valuable summary. Its title is "Problems of Aging—Biological and Medical Aspects." The chapter on the cardiovascular system and blood is contributed by Dr. Alfred Cohn. Everyone working in this field owes a great deal to Dr. Cohn and his associates.

While a start has been made in defining what is normal at a given age, this is not the only difficulty that we, as clinicians, encounter in deciding about the changes in the aging heart. The situation is further complicated by the fact that so often structural changes do not define the functional ability of the circulation in a given case. No one can, as yet, examine two hearts at autopsy showing coronary disease and say, this patient had angina pectoris and this one did not. I well remember how Dr. Richard Cabot used to emphasize to us, as students, at his Clinical Pathological Conferences that he could see no reason why this patient had died of heart disease, while others were apparently in fairly good condition with what appeared to be identical cardiac lesions. Warthin, in his book, "Old Age, the Major Involution," describes the primary tissue changes peculiar to old age as follows: (1) loss of power of cell division—numerical atrophy, (2) quantitative atrophy—condensation phenomena in cells, (3) shrinking of intercellular substance—desiccation, and (4) vascular changes.

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* Read at the Annual Scientific Assembly of the Society, October 16, 1940.

Grossly in the senile body the viscera show (1) atrophy of all organs but the emphysematous lung and the hypertrophied prostate, (2) increase in the consistence of solid organs, (3) changes in color toward grayer or browner, (4) changes in translucency, (5) serous atrophy of adipose tissue, (6) increased dryness and toughness of muscles, fasciae and connective tissues. Warthin summarizes changes of senescence in the cardiovascular system as follows:

"When allowed to get up or move about [after confinement of an old person to bed], the atrophic heart, which has lost tone through the period of inactivity, cannot recover its oxygenation power, and there then ensues an acute inadequacy of the myocardium which results in dilatation and sudden death. The only lesions of any significance found in some of these cases are those of old age: more or less coronary sclerosis, atrophy and fatty degenerative infiltration of the heart muscle. Precisely the same conditions will be found in the hearts of old people who have died quietly in bed. It is fair, I think, to ascribe these deaths to senility, although such a term is not an accepted designation as a cause of death. In my pathologic experience of thirty-eight years, I have seen not more than twenty-five autopsies in which I felt that the pathologic diagnosis of pure intrinsic senile death could be justified, and all of these were due to myocardial atrophy and inadequacy. In these cases, the degree of coronary sclerosis was not so marked as to give it the value of the exciting cause of the changes in the myocardium. In one case examined, that of an old man in the late nineties, who showed practically no sclerotic changes in any of his arteries, the only pathologic change found in any of his organs was that of a marked simple atrophy in the heart leading to cardiac insufficiency, arterial anemia, and marked passive congestion. Personally, I would regard myocardial atrophy and inadequacy as the most probable natural terminal lesion. The purely senile death should be, therefore, a cardiac death. The vital function of the circulation is more likely to cease before that of respiration or of the central nervous system."[2]

Cohn[3] more specifically outlines the changes to be expected with age in the heart: (1) increase in the subpericardial fat, (2) more rigidity and less accurate closing of the valves, (3) thickening of the endocardium, especially in the left auricle, but also on the septal side of the left ventricle and apices of the papillary muscles, (4) changes in striated muscle fibers, in advanced age the striations disappearing about the nuclei. It is possible also that there are changes in the intercalated discs, (5) steadily increasing pigment at the poles of the nuclei with age, (6) increase in size of the nuclei, which become more complex and take on more dye than in youth, (7) changes in the elastic tissue of the auricles, (8) changes in the coronary arteries, the anterior descending branch maturing the earliest, and changes in the posterior descending branch lagging perhaps for from five to ten years, (9) decrease in the rate of the heart, (10) possibly, changes in rhythm, such as premature beats and auricular fibrillation, and the development of heart block, (11) decrease in the ability of the heart to consume oxygen, (12) changes in the innervation of the heart, which becomes more sensitive to carotid sinus stimulation and less sensitive to the effects of atropine, and finally, (13) peripheral arterial and capillary changes.

Here then are the changes of drying, toughen-

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ing, increase in pigment, and atrophy. Let us, perhaps, postulate, then, that the factor peculiar to what we may call normal senescence is shrinking or atrophy, and that a hazy borderline of disease appears when the heart becomes enlarged.

We may now ask the question, has normal senescence in the cardiovascular system a clinical pattern which we can recognize, at least with the help of the X-ray and the electrocardiograph?

a. *Physical Examination.* It has been stated that at autopsy it is very rare to discover a normal heart after the age of 75 years. If, however, we examine people who have exceeded the Biblical three-score years and ten, we are apt to be impressed with the fact that the heart is not enlarged, the rate is slow, the sounds may have some decrease in intensity, but often there are no murmurs. The blood pressure may be normal or low. (The work of Gargiulo and Allende of the Institute of Physiology in Cordova, Argentine,[4] indicates that there is an actual physiologic decrease in the heart sound intensity in old age. Such phonocardiographic investigation may possibly reveal objective recordable changes which will help us in the evaluation of a given heart, but so far they cannot be translated into clinical medicine.)

b. *X-ray Examination.* The study of the heart by X-ray will show it to be normal in size or small. Roesler[5] states that atrophy of the heart begins between the ages of 60 and 65, and may result in a decrease in weight of up to 50 grams. The heart may become more horizontal in position. This would be consistent with Cohn's finding of a tendency for the electrical axis to shift to the left. The aortic configuration changes, due to lengthening and tortuosity of the aorta, the elasticity of the aorta decreases, and the size increases. The average circumference of the aorta increases about 20 per cent between the ages of 15 and 50, but great individual variations occur. The pulmonary artery increases in size, but at about the age of 45 the aorta passes the pulmonary artery in diameter.

c. *Electrocardiographic Findings.* There have been many studies of the electrocardiogram of aging individuals, but as yet there is no great unanimity of opinion about the limits of normality. Aschoff, quoted by Levitt,[6] says, "The usual senile changes, brown pigmentation, increase in connective tissue, and fat deposit in the conduction system are without effect on the electrocardiogram." With that, I am inclined to agree. I have not time to review the literature. The papers of Willius[7] and Warnecke[8] should be mentioned, as well as the unpublished material of Cohn, Lewis and MacLeod.[9] The last authors studied 100 normal, active, healthy men between the ages of 40 and 89 years, 20 in each decade. In addition, there were 2 men aged 91, and 1 aged 101. They decided that the P-R interval increases definitely after the seventieth year. The QRS and S-T intervals increase slightly. The voltage of the R in lead 1 becomes greater, and in lead 3 becomes smaller. The average T in lead 1 becomes lower, and in lead 3 higher.

This year in the Scientific Exhibit of the American Medical Association, the Metropolitan Life Insurance Company presented a very important study on the aging cardiovascular system.[10] I can show only a few of their preliminary findings. This work was based on the annual health examinations of their own personnel of 535 men and 551 women engaged in clerical work.

They analyzed the electrocardiographic findings at age 40 and listed significant and "possibly" significant findings. Briefly, let me point out that in such a group the electrocardiograph discovered in the "significant" group auricular fibrillation, partial heart block, wide P wave, wide QRS complex, low voltage, deep Q wave in lead 3, marked left axis deviation, low voltage T waves, diphasic T waves in leads 1 and 2, and displacement of the S-T interval.

However, in the group in which various important electrocardiographic findings were discovered, there was a high degree of inconstancy of these findings on serial electrocardiograms. A marked tendency to disappear or to be inconstant can be shown, for example, in low voltage, low T waves, displacement of the S-T interval, diphasic T waves in leads 1 and 2, and T-wave inversion in lead 2. This would seem to indicate the possible functional nature of these abnormalities, but whether or not on a background of structural change cannot as yet be determined. A special group of 156 men and 97 women, aged 40 years or over, was selected and chosen as non-cardiacs after careful study. The medical history of these had been known for 15 years. They showed no abnormality by physical examination, X-ray, and blood pressure determination, and no history of disease that might be considered a likely factor in the etiology of cardiovascular change. When one considers their electrocardiograms, two or three important things appear. The P wave was notched in 40 per cent of all the men in one or two of the leads, but in only 8 per cent of the women. Notching or slurring of the QRS group near the baseline was present in half the cases. M-type QRS complexes were present in 7 per cent of the men in lead 3. W-type complexes were found in 3 per cent of all cases in lead 3. A deep Q wave was found in 6 per cent in lead 3. One case had an inverted T wave in the first lead. In half of the women and a third of the men, the T wave was inverted in lead 3.

If this teaches us anything, it seems to me it shows that we must not be too rigorous in our interpretation of the electrocardiogram as indicating cardiac disease, if unsupported by other evidence.

Among such temporary factors altering the electrocardiogram, one can think of convalescence from acute infection, the effects of the upright as compared with the recumbent position, change in the position of the diaphragm, the influence of tobacco and digitalis, and the temporary changes incident to the menopause. Dr. Raymond Hussey yesterday mentioned T-wave changes with change in heart rate and T-wave alterations in nephritis. Dr. Ashton Graybiel has made important observations on the normal variations in the electrocardiograms of aviators.

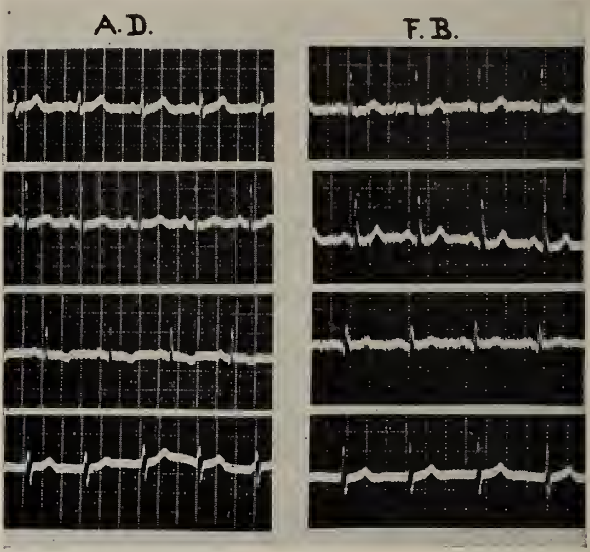

Fig. 1. Electrocardiogram on left is from a girl of 18 years with a normal heart; that on right is from a man 97 years old.

Figure 1 illustrates the other side of the picture. I presented these electrocardiograms to an expert electrocardiographer, who, suspecting some trickery, asked me if this was really the same patient with the tracing taken with the patient in different positions.

But what I really wish to show you is how little the mere factor of age may be expected to alter the electrocardiogram. On the left is a tracing (A.D.) from a girl 18 years of age with a perfectly normal heart, whom I examined because of some fatigue prior to her return to college. The electrocardiogram on the right (F.B.) might be considered that of a boy of the same age and under the same conditions. Actually, this is the electrocardiogram of a man 97 years old, the comfortable occupant of an old man's home. His cardiac examination is essentially negative, and I should consider him in the group of those approaching normal biologic death. Perhaps, then, this is the ideal for us to aim for in prolonging human life, although it seems likely that there are things in life more important than attaining great age.

We may conclude at this stage of the discussion, therefore, that there exists a small group of individuals who become aged in a sense all over like the one-horse shay. They have a general decrease in their vital functions, a slowing of metabolic processes, a decrease in reserve strength, but the normal changes in the cardiovascular system give neither the clinical signs of cardiac failure nor the electrocardiographic evidence of degenerative cardiovascular disease. In general, the process is that of atrophy, and even though vascular occlusions be present, cardiac infarction is absent.

Polanco[11] in 1936 analyzed a series of 242 cases with marked, moderate, and mild coronary sclerosis studied at autopsy. In the whole series, only 14.9 per cent had cardiac pain. The symptoms were as follows: palpitation 11, precordial discomfort 6, precordial pain 37, dyspnea 73, and evidence of congestive failure 162. In those analyzed for the presence of cardiac pain during life, 91.7 per cent showed severe coronary sclerosis, and 2 patients had moderate sclerosis. There was no patient with mild sclerosis who had cardiac pain. In coronary disease, therefore, congestive failure is still much more common than angina pectoris.

The accelerated aging of the heart to the point of symptoms, and often signs, implies relative myocardial anoxemia from a sufficient encroachment of atherosclerotic processes on the lumen of the coronary arteries, or from occlusion of the arteries so rapidly as to prevent the development of a compensatory circulation, or from myocardial infarction. It is exceedingly important to differentiate coronary occlusion from myocardial infarction. They may and often do occur independently of each other. It seems fair to state that the electrocardiogram does not record coronary disease until it is of sufficient degree to cause destruction of muscle tissue, except in cases of transient S-T and T-wave changes during temporary anoxemia.

Many of us tend to use the term "coronary sclerosis" as if this were a clinical entity. In the absence of angina pectoris, I do not believe such a diagnosis is justified if we mean that atherosclerosis of the coronary vessels is present without occlusion and myocardial infarction of some degree. Blumgart and Schlesinger[12] have shown even that angina pectoris does not occur until considerable coronary occlusion has already taken place. The same, I believe, is true of congestive failure from coronary degeneration.

We may, perhaps, leave open the possibility of coronary spasm on a substrate of coronary sclerosis, but it seems probable that spasm, if it occurs, must be of such degree as to approximate destruction of heart muscle, if sufficiently prolonged.

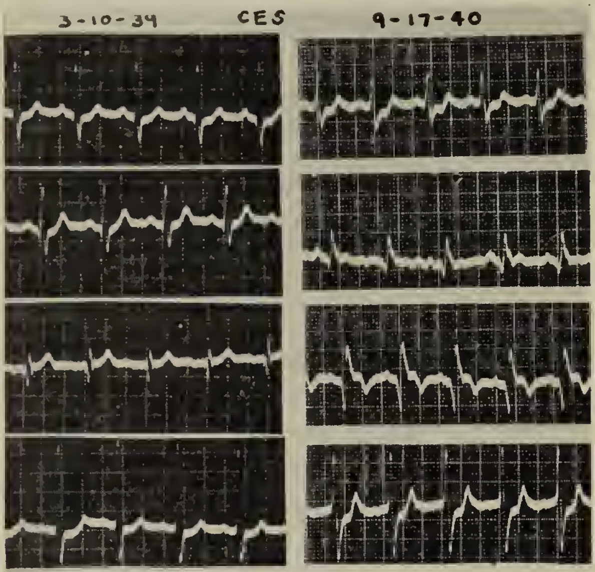

FIG. 2. Electrocardiogram on left is from man of 70 years made one year before death; that on right made during acute infarction shortly before death.

As examples of anatomic coronary sclerosis without infarct and with normal electrocardiograms, let me refer to figure 2.

This electrocardiogram is that of a man dying at the age of 70 with an acute coronary obstruction, with closure of the right coronary artery, and complete infarction of the left ventricle on its diaphragmatic aspect from base to apex. The right hand tracing is the electrocardiogram taken during the acute infarction. The left hand tracing, made one year before his death, I consider not diagnostic of cardiac disease, and this is characteristic of the tracings which I recorded in his case at intervals for 15 years. The autopsy showed that, at the time of this electrocardiogram, and undoubtedly for years, the anterior descending branch of the left coronary artery was completely closed. The left circumflex was anatomically very small, and the entire circulation of the heart must have been carried largely through the right coronary artery. There was, however, no evidence of any old infarct of the left ventricle. Here, then, is an example of complete coronary closure existing for years without infarct of the heart and a normal electrocardiogram. The patient did, however, have angina pectoris for 15 years.

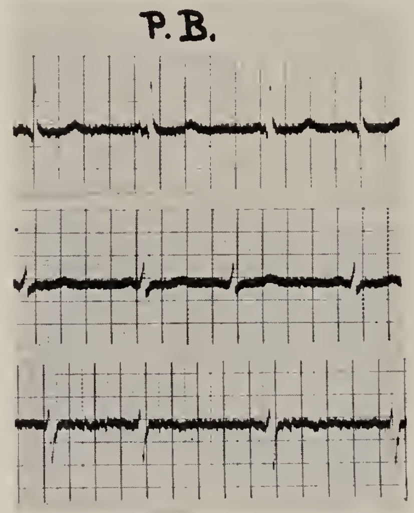

Fig. 3. Electrocardiogram of man of 80 years without clinical evidence of heart disease but with advanced coronary sclerosis.

Figure 3 is the electrocardiogram of a man 80 years old, dying of carcinoma of the sigmoid. His heart weighed 275 grams, the myocardium was firm, and there was no infarct. The coronaries, however, showed a marked degree of arteriosclerosis with calcified plaques up to 1.5 cm. in diameter. The left coronary, for 3 mm. above the bifurcation and extending 4.5 cm. into the left descending and 3 mm. into the circumflex artery, was partially to completely occluded by calcified atheromatous material. The right coronary was moderately to markedly narrowed. This man had no cardiac symptoms, and the electrocardiogram shows slight left axis deviation with nothing diagnostic of coronary disease.

These examples show the aging heart from a postmortem viewpoint. High degrees of coronary change were present in these 2 cases with complete occlusion, yet 1 man had angina for 15 years and died at 70 of acute infarct. The other lived to 80 without cardiac symptoms and died of malignant disease. Is the second man normal? I think we almost must hedge and say he was "normally diseased," or had "normally degenerated."

It is probably of more or less academic interest to decide the amount of coronary change occurring in individuals over the age of 65. What we in practice are concerned with is an attempt to find out in an individual case whether or not these age changes are either out of line with the chronologic age of the patient, or of such a nature as to cause cardiac failure. I have tried to show that, in the absence of cardiac enlargement, it is extremely difficult to determine any lethal pattern based on objective findings on cardiovascular examination. We must then rely very heavily upon the history as given us by the patient, always with the assumption that the history is given to us honestly. We must be eternally on the watch for atypical stories of angina pectoris, and for the early symptoms of congestive heart failure. A history of diminished cardiac reserve may be helped by electrocardiographic findings, but often the electrocardiogram is negative. Various other physiologic tests may be valuable in revealing an underlying cardiac change. One may cite Levy's anoxemia test for angina pectoris by which clinical and electrocardiographic evidence of coronary disease may be revealed in a small group of cases. Certain exercise tests may have value in determining cardiac fitness, but it is in general our opinion that such tests measure the muscular strength and coordination of the individual, or his degree of training rather than his cardiac function. Probably the best test is whether or not the patient is able to do his customary work without symptoms. Another aid is the pulmonary circulation time, differentiating cardiac from pulmonary dyspnea. One's own rather indefinite clinical opinion may make one suspect cardiac weakness. Slow recuperation after a strain may be the first sign of physical deterioration. Yet we cannot always blame the cardiovascular system for this lack of resiliency. Let us say, therefore, that faced with a patient without hypertension or definite electrocardiographic changes, and with a normal-sized heart, we must rely almost entirely upon what the patient tells us in assessing the aging of his heart.

SUMMARY

The term "normal" as regards the cardiovascular system must be related to various factors, such as function, structure, activity and age period. There are two chief types of normal aging individuals. The first is a small group which may be expected to approach a hundred years of age before death. In such individuals, the changes of senescence are largely those of desiccation, although coronary sclerosis will almost invariably be present. The changes in the vessel walls will either not encroach greatly upon the lumen of the arteries, or will be so slow in their development that they will result in occlusion of arterial branches in the heart without gross infarction. The second type of normal we may consider the individual who lives the average life expectancy, but who may not be entirely free from cardiac symptoms or electrocardiographic signs during the later years of his life. He may be expected to show coronary atherosclerosis with some occlusion, and if not gross infarction, at least a more diffuse replacement of heart muscle by fibrous tissue. These two normals naturally overlap, as compensatory mechanisms gain or lose over the degenerative processes.

Preliminary studies are showing that there are certain minor electrocardiographic changes incident to the aging process, but the range of electrocardiographic normality at all ages is probably greater than we used to think. However, until further autopsy and electrocardiographic correlation has been accomplished, it would appear wise to consider within normal only slight increases in the P-R interval and QRS duration, slight lowering of the T waves, and the development of slight left axis deviation. A deep Q wave in the third lead cannot be considered diagnostic of cardiac disease. Notching and slurring of the QRS complexes near the baseline and inversion of the T wave in the third lead are found in a high percentage of normal people. It still remains very questionable if inversion of the T wave in the first lead can ever be considered normal. The inconstancy of electrocardiographic findings of a questionable nature make serial electrocardiograms and tracings taken with the patient in different positions and under standard conditions advisable before any conclusions are drawn in an individual case, and they must always be related to body type.

The development of hypertension in itself may be considered evidence of an aging system, but in this condition the diagnosis is generally obvious and the most important evidence is found in cardiac enlargement. Minor and questionable degrees of enlargement, however, still present difficult problems for diagnosis. Some changes of cardiac rhythm and conduction must be considered characteristic of accelerated degenerative change. Of these, auricular fibrillation and flutter are definite. Perhaps frequent premature beats should be looked on with suspicion after middle age, and also high degrees of sinus arrhythmia, especially when associated with displacement of the pacemaker.

In closing, let us agree that the aging of the heart is mediated almost entirely by coronary integrity, but that coronary function is often inexplicable in terms of structural change seen at autopsy. Angina pectoris and congestive failure define cardiac function in coronary degeneration. Probably neither one occurs without some degree of coronary occlusion in the absence of hypertension. In spite of this, the objective evidence of heart disease will be entirely lacking in 20 per cent of the cases of angina pectoris, and a careful history must still be considered as giving the best evidence of significant degenerative cardiac disease.

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THE PREVENTION AND TREATMENT OF INFECTED WOUNDS*

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This problem is always interesting, and the many and varied contributions to its solution appear frequently in medical literature. Our knowledge of the bacteria present in infected wounds has developed since the time of Pasteur and Lister. However, it must be remembered that previous to this period surgeons were faced with the problem of suppuration, and knowledge of their attempts at solution is of value at present, since the only fundamental difference between the wounds surgeons then made and those of modern surgeons was a lessening of the number of bacteria present in the latter. Traumatic wounds have always presented the same difficulties.

There exist in all surgical literature two fundamental concepts of the prevention of suppuration and the treatment of infected or suppurating wounds. One school of surgeons has taught cleanliness and later asepsis and placed their greatest hope of wound healing in the ability of nature to accomplish this end unaided by other than wound approximation and protection; the other, recognizing the failure of this method, has tried cautery, chemotherapy and certain biologic preparations. Paracelsus (1493–1541), the Swiss medical reformer, according to Mason,[1] stated the thought of the aseptic surgeon as follows: "Mainly must the surgeon take heed not to remove or interfere with nature's balsam but protect and defend it in its working and virtue. It is in the nature of flesh to possess in itself an innate balsam which healeth wounds. Every limb has its own healing in itself; nature has her own doctors in every limb; wherefore every surgeon should know that it is not he but nature that heals. What do wounds need? Nothing. Inasmuch as the flesh grows from within outwards and not from without inwards, so the surgery of a wound is mere defensive, to prevent nature from suffering any accident from without, so that she may proceed unchecked in her operations." Henri de Mondeville, a French surgeon born in Normandy in the latter half of the twelfth century, advised immediate suture of wounds of the abdomen, intestine and chest, cautioning against delay followed by suppuration.[2] The Greeks filtered or boiled water in which wounds were washed and directed that dressings should be of new linen. Wine and oil were the most usual applications, and the healing of clean wounds was expected. Careful cleansing of the hands and nails and the wearing of clean clothing were emphasized. It is stated by Mason[1] that the Talmud warns against touching wounds with the hands since the fingers cause inflammation. Surgeons, with the exception of Haller, according to Graham,[3] failed to realize the importance of the contributions of Gordon, Semmelweis and Holmes. Haller, in 1849, stated in an address to the Medical Society of Vienna that Semmelweis's work was of such great importance for lying-in hospitals and for hospitals generally speaking, especially for the surgical wards, that its importance was immeasurable.

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* Read before the Society, December 11, 1940.

Lister's great contribution was made as a result of his understanding of Pasteur's epoch-making discoveries in the field of bacteriology. His paper on a "New Method Of Treating Compound Fractures, Abscesses, Etc.; With Observations On The Conditions Of Suppuration" appeared in the *Lancet* in 1867.

Any review of the preparations used in treating wounds freshly made or suppurating would be encyclopedic. It is, however, of interest to mention a few. The use of oil and wine is of ancient heritage. Paré's use of a mixture of yolk of eggs, oil of roses and turpentine in the campaign of 1536–7, when he ran out of boiling oil, as described by Garrison,[4] marked a departure from the extremely painful and unsatisfactory practice of using what must have been a deep cautery in all wounds. It should be remembered that at the time of Paré gunshot wounds were felt by a majority of surgeons to be poisoned. The Dakota Indians washed wounds, using the equivalent of a modern syringe made of a bladder and a quill. Active suppuration, laudable pus was regarded by surgeons previous to the time of Lister as a method of healing, and various means were used to bring it about; and since we know that the staphylococcus is the most common organism producing pus, its presence in many wounds may have been some assurance of the absence of other more dangerous organisms.

The use of urine as a form of wound therapy is very old. Phioravanti in 1652, as quoted by Graham,[5] described an experience in North Africa in which he saw an African negro pick up the end of his nose after having it struck off, void upon it, and place it in the normal position. Complete healing occurred. It is a form of therapy used by farmers in treating animals in this country, and an instance is mentioned by Lawrence in "The Seven Pillars of Wisdom" of an Arabian treatment. Mason[1] states that Larrey, the surgeon responsible for the medical care of the French armies under Napoleon, did not believe in the frequent dressing of wounds, and during the Russian campaign sent many of the wounded to France without changing their dressings.

Present methods of the prevention of infection and the treatment of infected wounds appear in great part as refined continuations of older methods.

Infection enters a surgically made wound in the operating room from inadequately sterilized instruments, supplies and sutures, inadequate masking of the operative field, introduction by the hands of the operating team, or deposition from the air. Infection may later result from a lack of care in dressings, from skin secretion, or by the carrying of organisms to the wound by the blood stream. It should be stressed that sterilization by boiling instruments is effective, whereas attempts at sterilization of instruments chemically may lead to either injury of the instruments or failure to sterilize. As pointed out by Meleney,[6] alcohol is not satisfactory. The Bard-Parker solution, according to the above mentioned surgeon, does sterilize but is attended with the danger of irritating the hands of the operator and causing necrosis if introduced into the tissues of the patient. Sterilization of supplies should be watched carefully since the autoclave may not be working efficiently or may not sterilize one particular type of supply.

Much may be written about the sterilization of sutures. During the past year the number of postoperative infections was greatly decreased in a Washington hospital when it was discovered that the solution in which the nonabsorbable skin sutures were kept contained bacteria. Sterilization of these sutures is simple and needs no discussion. The sterilization of catgut is a very much more difficult procedure. Meleney and Chatfield[7] in 1931 stated that surgeons were using contaminated catgut from time to time. Chemical sterilization of catgut, according to Clock,[8] who reported in 1934, is inefficient and unreliable, and heat sterilization is the only uniformly reliable method.

Preparation of the operative field varies most in the type of antiseptic used. Jett[9] in 1936 surveyed the methods used in skin preparation. Practically all agreed that skin sterilization of the site of incision is impossible by any means known. Careful shaving of the operative site is desirable and important. Scrubbing with a soft brush and soap is important, and the tincture of green soap is best for this purpose. Ether or acetone is perhaps the best agent to use to remove the oil and fat from the surgical skin. The chemical antiseptics most favored in their order were 7 per cent and 3½ per cent tincture of iodine, mercurochrome, merthiolate, a solution of bichloride of mercury (1 to 1000), and picric acid solution. None were satisfied with their chemical antiseptics. Jett, several years previous to the publication of his paper, started the use of a preparation based on cleanliness, the principle of which was generous cleansing with green soap and water, and the use of alcohol and ether to remove the fat. It was found at George Washington University Hospital that the number of infections was decreased by covering the area of the operative site with sterile towels taped in place from the time of the shaving and cleansing with soap and water on the evening of admission until the next morning, when the operative field was cleansed with ether and alcohol and again covered with a sterile towel. Preparation in the operating room consists in the application of the antiseptic. The particular antiseptic applied probably makes a difference, but as yet there is such a diversity of opinion based on many pieces of investigative work that no surgeon can say definitely that any one is better than all others. Though the hands of the surgeon and his assistants are responsible for wound infections, there is no uniform technic of cleansing. The use of rubber gloves does, however, aid greatly in preventing infection regardless of the technic of scrubbing used. Care should be used to avoid tearing the glove during the operation, since the perspiration contained is not sterile. It is now well recognized that infection may be introduced into the wound from the mouths and noses of the personnel of the operating room and of visitors. Meleney[6] found that when, because of the obvious discomfort, he had permitted the anesthetists to remain unmasked, the incidence of infection of the wounds definitely increased. In the operating room at George Washington University Hospital I was able to recover many hemolytic streptococci from a Petri dish placed in the operating room next to the instrument table, which happened to be directly in front and below a student who leaned forward over the railing in asking a question. Walker is quoted by Beck[10] as having examined masks submitted from 60 hospitals in the United States and found that none could be considered as efficient in preventing the passage of organisms through the material. According to Beck, however, 6-ply fine mesh will prohibit droplet infection. This I believe to be true after testing various masks. The most important factor is that these masks be worn by all persons in the operating room. Talking increases the possibility of infection. It is of course necessary to mask the nose as well as the mouth.

Infection that is airborne was of interest to

Lister, who used a carbolic acid spray to combat it. By most surgeons it has been felt to play a minor role. One of the attempts to decrease the bacterial flora found in the air has been the use of steam which is allowed to condense before the operation. An excellent method of air filtration which removes bacteria as well as dirt is at present being used by one of the Washington hospitals. Sterilization of air by ultra violet radiation has been carried out by Hart[11] in a large series of cases and has brought about a reduction of infected wounds of over 85 per cent. This resulted in the elimination of an occasional death from wound infection, a reduction of the number of patients with a postoperative temperature above 100°F., and an improvement in wound healing with a shortening of the convalescent period.

Hart and Sanger[12] demonstrated that wounds in animals exposed to ultra violet light healed as well or better than control wounds, and there were no ill effects noted when peritoneal exposure occurred. It has been known since the time of Pasteur that the number of bacteria decreases as the distance above the earth's surface increases. This also applies to the number of bacteria in the operating room. Hunt[13] stated that we clean up the things in contact with the patient and forget the air. In our congested communities surgeries that are not very high above ground are not clean with regard to the air. Investigation of the bacterial content of a surgery close to the ground, according to Hunt, gave 130 colonies in a Petri dish, while on the fifth floor, 30 colonies were obtained, and on the roof, 8 or 10 colonies were grown and these mostly molds. Meleney reported that the number of colonies occurring in an operating room on the sixteenth floor was just one-half as many as occurred in another operating room located on the first floor. He also found that the bacterial colonies in his Petri dishes were one tenth as many when the operating room was not in use and there was no one in the room as when it was in use. Street dirt carried into the operating room on shoes adds to the bacterial flora. Shoes contaminated from purulent and infected cases may carry virulent organisms into the operating room.

Meleney found that in a busy operating room it is fair to assume that in the course of 1 hour, 35,000 to 60,000 bacteria fall upon a sterile field. Chesterman[14] reported 2 cases of tetanus which occurred and were traced to tetanus spores on the floor of the operating room. Canopies over instrument tables decrease contamination. Hunt[13] cultured the wounds in 28 cases before closing and failed to obtain growth of organisms in but 3. In 23 cases the colonies varied between 50 and 1,680, and in 4 they were too numerous to count.

It is therefore true that a great percentage of the wounds made in the operating room are contaminated by a varying number of bacteria of varying virulence. The average percentage of postoperative infections has been given by Harrison[15] after a survey of the literature as 10 per cent.

The fact that only 10 per cent become clinically infected is sufficient evidence to prove that primary wound healing does not depend exclusively on the exclusion of organisms.

Wounds which are severely traumatized and in which excessive amounts of suture material are placed are prone to become infected.

Wounds in which large amounts of tissue are devitalized by crushing clamps or ligatures or that contain drains are more liable to infection. These injuries to tissue tend to decrease local immunity but probably have no effect on general immunity. The general and local immunity of patients varies in good surgical risks correctly prepared for operation. Both are lower in undernourished individuals, and may be lowered, according to Bird and MacKay,[16] by dehydration. A high protein diet shortens the time required for healing, according to Douglas.[17] Lauman and Ingalls, as quoted by Douglas, have shown that partially scorbutic animals have lowered tensile strength in wounds. Vitamin A, according to the studies of other workers, accelerates repair. Thyroid has also been reported as having a good effect on wound healing. I have tried unsuccessfully on animals the use of various irrigating fluids and antiseptics. Their use seems to reduce the immunity of the tissues in direct proportion to the decrease in bacteria, the same or a greater number of infections occurring.

The most frequent organism found in infected wounds is the staphylococcus. The colon and streptococcus are the other frequent contaminants. Rarer infections are the gas bacillus, tetanus organisms and the amoeba.

The usual staphylococcal infection is best treated by drainage and hot compresses. The use of ultra violet rays is of value. Drainage is necessary, but care should be taken not to separate healed surfaces more than is required to obtain it. Streptococcal infections are treated in a similar fashion and may require the use of sulfanilamide. Tetanus may occur many months after the wound has healed.

The advent of sulfanilamide, sulfapyridine and sulfathiazole has opened many new fields, and an increasing use of these drugs is taking place. In 1939, the medical corps of the English army issued orders that sulfonamide derivatives should be used prophylactically in all cases that appeared likely to become the site of secondary coccal or gas gangrene infection. Bricker and Graham[18] have shown that for the first few days sulfanilamide slows healing, but that after that period the wounds are of normal strength. At present sulfanilamide is being used locally in infected wounds with favorable results.

In the late Spanish civil war a complete reversal of fundamental method in the treatment of war wounds involving bones and soft tissue came about.[19] The method is essentially that of Orr, which is so well known in this country. The wound is thoroughly cleaned mechanically, if possible within 6 hours of the time it was received, and left wide open. A small pack may or may not be introduced. A sterile dressing is then applied and the whole enclosed in a plaster cast. The results have been reported as excellent.

For presentation as a part of this paper, Dr. B. G. Brown, resident surgeon at George Washington University Hospital, reviewed 150 cases. Of this group, 10 per cent became infected following operation, although only 4 cases were at all severe. All of these cases were prepared for operation by the use of iodine and alcohol or zepharin. One hundred and ten were prepared with zepharin, and the percentage infected was 10.9 per cent. Forty were prepared by the use of iodine and alcohol, with 7.5 per cent infected.

Summarizing, it is evident that wound infection can only be decreased by meticulous care in the preparation of the patient, in the operating room and postoperatively, and that at present we have reached only the period of relative asepsis.

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THE TREATMENT OF PYOGENICALLY INFECTED WOUNDS BY THE TOPICAL APPLICATION OF POWDERED SULFANILAMIDE AND SULFANILAMIDE-ALLANTOIN OINTMENT*

A PRELIMINARY REPORT

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The treatment of pyogenic infections has always been a major problem in large charity hospitals. The indigent classes are prone to neglect minor injuries during the period of bacterial contamination and seek medical aid only after their wounds have become grossly infected. The frequency of postoperative wound infections is usually greater among such patients than among the private patient class. The employment of the cardinal surgical principles in the management of pyogenic infected wounds does suffice in many cases. Among these measures are débridement, provision for adequate drainage, local rest, heat and protection of the part. However, in many instances more active local measures must be resorted to in order to control the infection. The topical application of antiseptics frequently causes more damage to the tissues than to the invading organisms. The most successful chemical methods of treating infected wounds are those in which the chemical is administered continuously in the form of compresses or irrigations. The success of this type of therapy must not be underestimated, but it does require expert supervision and constant attention. The search for a simpler and more effective means of controlling local pyogenic infections seems to have been answered in a large measure with the introduction of the sulfonamide compounds. The observations made in the treatment of some 140 cases of pyogenically infected wounds by the topical application of sulfanilamide powder form the basis for this report.

The excellent results gained by the use of sulfonamides in controlling certain systemic infections have been widely hailed. Apparently the value of these drugs depends upon the high blood concentration attained by their oral or parenteral administration. The failure of comparable results on local suppurative lesions when sulfanilamide was given orally or parenterally was readily discovered. Recent reports indicate that more favorable action may be obtained by the direct introduction of the drug into the infected area. Fields and Weinstein[1] in 1938 reported rapid control of secondary infection in chancroids by the local application of sulfanilamide powder. Jensen, Johnsrud and Nelson[2] found that sufficient sulfanilamide could be placed into a wound to give a very high local concentration without causing damage to the tissues or producing toxic systemic effects. They reported 39 compound fractures treated by the instillation of sulfanilamide into the wound after thorough débridement, with primary healing in all cases. In a control group of 94 similar cases treated without sulfanilamide, 27 per cent became grossly infected. There have been several other reports on the local use of sulfanilamide in treating infections.

About nine months ago we began a study of the action of sulfanilamide on pyogenic infections when it was applied directly into the open wound. More than 140 cases have now been so treated, including infected operative wounds, infected burns, compound fractures, leg ulcers, decubitus ulcers and infected traumatic wounds. Bacteriologic and microbiologic studies were made on a large group to determine the character of the bacterial flora before and after instillation of sulfanilamide. In practically all cases there was a mixture of organisms; the most common invaders were streptococci, staphylococci, the colon group and diphtheroids. In some the growth of B. pyocyaneus was quite prolific. Regardless of the various combinations of bacteria found in the above groups, sulfanilamide caused an immediate inhibition of growth as judged by smears, plated colony counts, and the gross appearance of the exudate.

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A single application of the drug, however, did not prove sufficient to prevent a revival of growth. Repeated daily doses caused a rapid decline in the bacterial activity. Plated cultures showed a progressive diminution in the number of colonies until about the eighth day, when they became practically sterile.

Biopsies were made in a series of cases at the time of admission and at various stages during the period of treatment. From these sections it was learned that although rapid control of the bacterial invasion might be accomplished there was often a retardation of the healing process. The granulation tissue seemed inactive, dry, pale and poorly vascularized. As long as we continued the daily use of the pure sulfanilamide powder, the granulations remained sluggish. Apparently the continuous high concentration of the drug has a deleterious effect on normal cellular activity. Complete removal of sulfanilamide often allowed a reactivity of the bacterial growth and a resumption of the inflammatory process. Therefore, it seemed imperative that to check the infection and keep it under control, an adequate amount of sulfanilamide had to be present at all times until healing was well established.

Aqueous solutions proved ineffective because of the low concentration, and constant strengths of sulfanilamide could not be obtained in oil suspensions. It was then suggested that the sulfanilamide be incorporated into an ointment. Several attempts were made with inert bases, but the granulations still did not react very favorably. Recalling the excellent stimulating effects of allantoin on nonhealing wounds claimed by Robinson,[3] it occurred to us that we might obtain an adequate preparation to control the infection and at the same time stimulate granulations by combining sulfanilamide and allantoin. We therefore asked the National Drug Company of Philadelphia to prepare an ointment containing these two substances in various concentrations. After several trials an effective combination was found. The formula was:

Sulfanilamide	10%
Allantoin	2%
Chlorobutanol	0.5%
Greaseless base	q.s.

The base used was a glycerinated stearic acid ointment with triethanolamine. This was chosen primarily because of its greaseless character.

In a number of cases the same ointment was used without including allantoin in the formula. Although these cases healed and lacked the indolent phase which seemed to characterize the continued use of full strength sulfanilamide, the growth of granulation tissue was not as rapid nor as freely bleeding as when the allantoin was used. Using more than 2 per cent of allantoin did not seem to be advantageous.

We now follow a routine technic for the treatment of all pyogenic wounds, the results of which have been most gratifying. The wounds first receive a careful and complete débridement. Wounds that have been sutured are widely opened. All pus pockets are drained and all necrotic and devitalized tissue is removed. After the wound has been thus prepared, a sufficient amount of pure sulfanilamide powder is instilled to cover the diseased tissue completely. The amount of sulfanilamide necessary depends, of course, upon the area of the lesion; in many cases 7 to 15 grams have been used in a single application. When the powder has been placed in the wound, a sterile gauze dressing is applied. A fresh sulfanilamide dressing is supplied daily until the purulent exudate ceases and the infection is under control. This usually requires from 4 to 6 days. At this stage the granulations are often pale, anemic, and show little tendency to grow. It is then necessary to reduce the concentration of sulfanilamide in order to encourage tissue repair. We therefore substitute the sulfanilamide-allantoin ointment for the powdered sulfanilamide. The ointment is spread over the entire infected area and covered with gauze or oiled silk. These dressings are changed daily. The granulation tissue responds quickly, losing its pale and anemic color within a few days and becoming red and healthy in appearance. The infection remains under control and normal healing processes are again reëstablished.

The results obtained by this method of local chemotherapy in pyogenically infected wounds certainly warrant further clinical trial. In our hands it has proved highly effective in combating the common pyogenic organisms. The action of the drug seems to be entirely local, and its effectiveness is apparently in proportion to its concentration. There has been no evidence of any constitutional toxic reaction regardless of the amount of sulfanilamide used. One simple rule must be followed in order to obtain the maximum results. The drug must come into actual contact with the bacteria. Therefore, an adequate débridement is necessary in all cases.

CONCLUSIONS

1. Sulfanilamide acts locally when instilled into pyogenic wounds by inhibiting the growth of certain organisms. Chief among the bacteria affected are streptococci, staphylococci, the colon group and B. pyocyaneus.
2. The action depends upon the concentration of the drug.
3. Continued use of pure sulfanilamide retards the growth of granulation tissue.
4. The substitution of sulfanilamide-allantoin ointment for the pure sulfanilamide after the infection is controlled stimulates the growth of granulation tissue.
5. The local application of sulfanilamide apparently does not produce any toxic systemic reactions.

N. B. We wish to thank the National Drug Company for its coöperation in furnishing us with the allantoin preparations used.

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Importance of adequate riboflavin. An adequate supply of riboflavin, also called vitamin B_2, in later life will not compensate for a deficiency in childhood, *Hygeia, The Health Magazine* for February, 1941 warns.

Milk is the richest source of riboflavin. It is also abundantly present in those plant and animal tissues in which the most active chemical changes take place, such as the leafy and germ portions of plants and the liver, kidney and heart organs. The name riboflavin indicates that the vitamin contains a sugar called ribose and flavin, a yellow pigment containing nitrogen.

"Symptoms of riboflavin deficiency," *Hygeia* says, "are collectively designated 'ariboflavinosis' and are characterized by a 'cheilosis' or inflammation and scaling around the corners of the mouth, a condition called 'poor man's mouth' in some sections of the country, lesions around the nose and eyes and functional disturbances of the eye.

"Riboflavin is destroyed by strong sunlight. A practical application of this fact for city dwellers is to make sure that the milk, delivered early in the morning, is not left standing for a long period of time in the bright rays of the sun. Milk should be refrigerated as soon as possible after it is delivered."

PRESIDENT'S NIGHT

Medical Society Building

1718 M Street, N.W.

APRIL 30, 1941

8:15 P.M.

GUESTS OF HONOR

The President
The President-elect
Past Presidents and
Distinguished Visitors

HIGHLIGHTS OF PROGRAM

President's Address
Award for Meritorious Service to
the Medical Society of the District of
Columbia
Excellent Entertainment by Members of
the Medical Society and the
Woman's Auxiliary

Buffet Supper

AN EVENT WHICH WILL LONG BE REMEMBERED

PHYSICIANS AND THEIR WIVES INVITED

EDITORIALS

DEFENSE AND HEALTH

As pointed out in the January 25 issue of the *Journal of the American Medical Association,* it is evident that "advocates of measures for health insurance are using the military emergency as added pressure." The *Journal* said, "All sorts of extraneous matters are being plausibly advanced as supplementary to preparedness."

Recently Senator Robert F. Wagner of New York announced that he will introduce a health bill in the current Congress. Details have not yet been announced. However, the *Washington Post* on January 8 editorializes as follows:

"Senator Wagner, after a conference at the White House, said he would present a bill somewhat similar to the one sponsored by him which lost out in the last session of Congress. The original plan, which provided for Federal aid to State programs of hospital building, general medical care and other services, encountered objections from the President. The new plan, it is assumed, would be more in line with Mr. Roosevelt's views.

"The Senator remarked after his visit to the White House that an expansion of health facilities could be worked out in connection with the defense program. Means for guarding the health of workers in essential industries already are known to be under survey by the Federal Security Agency and the United States Public Health Service, but the nature of any plans under consideration will not be revealed officially for a week or so. Knowledge of how these plans will fit in with Senator Wagner's must await an announcement from one of the Federal agencies concerned.

"The public has a vital interest in whatever program may be evolved. The success of the defense effort depends on the health and well-being of the workers. Universal health examinations for them and some method of insuring adequate medical care are indispensable. But any system under which general medical care for these tens of millions would be paid for directly with Federal funds is out of the question.

"Funds for the program should, in part at least, come out of the pockets of those who will benefit by it."

At a meeting of the American Association for Social Security held in New York on January 19, the preparedness theme as it relates to health was again emphasized. Following a plea made by Senator Arthur Capper of Kansas, that compulsory health insurance laws be enacted, Assemblyman Robert F. Wagner, Jr. of New York was quoted as saying that the "high proportion of draftees rejected for physical disability" warranted the support of health insurance laws in the interest of achieving an "unshakeable faith in the manner of life we are defending."

Shortly thereafter, a new publication entitled *Medical Care* made its initial appearance. This publication, many of whose sponsors have long been advocates of a Government system of medicine, to which a majority of physicians are opposed, gives among other reasons for its existence the fact that the "national preparedness program is likely to increase organized medical care for considerable sections of our people and to expand the functions of government in promoting health for the sake of productive efficiency. Tax-supported medical services and voluntary insurance plans are extending. State and federal legislation is before the public."

It is apparent that every advantage is to be taken of the military emergency by proponents of compulsory health insurance. At the same time, greater demands are being made by the Government on physicians. They are being asked to give every assistance possible in connection with the medical aspects of the Selective Service System. Thousands of physicians are serving on local draft, advisory and induction boards. Hundreds of others are being called into military service and thousands more will be needed before summer, when it is expected at least a million men will be under arms.

Although administration leaders have indicated that extremists will be held in check, there is real danger to the public and the medical profession in this situation. No one who is familiar with the facts questions the patriotism of physicians or their desire to provide ample and good medical service to all the people. It would therefore be a cause for deep concern if their views on how this can best be done are not given the thoughtful consideration they deserve. If an honest effort is made there can be no doubt that divergent views can be reconciled, thereby benefiting everyone concerned, most important of all, the people of this country.

ARABIC MEDICAL MANUSCRIPTS

Among the many cultural treasures which fled from the bombing and general destruction in the Old World to the United States was the priceless collection of a well-known Arabic scholar, who wants to be known only as a citizen of England. For more than forty years he had traveled the countries of the Mussulman from Fez through Cairo to Bagdad, purchasing manuscripts in Turkish, Persian and Arabic languages which had been kept in the libraries of sultans, on the bookshelves of imams, and in the tents of sheikhs of the deserts.

Throughout his forty years of nomad life this scholar acquired some 4,000 oriental manuscripts dealing with all sorts of subject matter, but only about 120 are of medical or pharmacologic interest. They are treatises, longer monographs or medical textbooks of famous Arabic physicians, and they represent both a chronological and a geographical cross-section of the rise and fall of Arabic medicine, from the 9th century of the Christian era.

Though the Army Medical Library is considering the purchase of the entire medical part of this Arabic manuscript collection, it was possible to get only a selected half of the medical classics offered to the library. Among the 63 manuscripts acquired by the library in December of 1940 there are copies of the works of such celebrated physicians as Hunain ibn Ishaq, Rhazi, Ali ibn Abbas, Ibn Sin (or Avicenna), Ibn Butlan, Ibn Rushd (Averroes), Ibn al-Baitar, Ibn Nafis, and many others. The manuscripts date from different centuries. The oldest one in the purchased collection is the al-Hawi of Rhazes, which had been written in 1094 A.D., just before the beginning of the Crusades.

The importance of the acquisition of such a collection of Arabic medical manuscripts need not be emphasized to any scholar of medical history. Many of these works have never been translated or published in print. Many of them are rare, several being unique, and never before described. Those who know the significance of Arabic medicine throughout Western Europe of the Middle Ages, and those who are aware of the important role Arabic physicians played in preserving for us the ancient science and culture of Rome and Athens, the medical art and knowledge of Hippocrates and Galen, will learn with satisfaction and with a sort of patriotic pride that one of the finest and largest collections of Arabic medical manuscripts is now close to them, ready to serve the medical historian and his increasing interest in the medical history of the caliphates.

C. F. M.

PRESIDENT'S NIGHT

Medical history will be made in the District of Columbia on April 30. For on the evening of that day members of the Medical Society and the Woman's Auxiliary will participate in President's Night.

Annually, for many years past, a meeting has been devoted to the Presidential Address. While this feature will be included in the President's Night, there will be a note of gaiety which has been absent heretofore. Officers of the Society are certain that this innovation will be welcomed and that it will prove a memorable occasion.

Following ceremonies in which the President, Past Presidents and distinguished guests will participate, a certificate for meritorious service to medicine in the community will be awarded a member of the Society. Excellent entertainment will also be presented by talent from both the Medical Society and the Woman's Auxiliary. At the conclusion of the program, a buffet supper will be served, affording ample opportunity for those present to fraternize. Dr. John A. Reed has been appointed Chairman of Committee on Arrangements.

Some real surprises will be in store for those who are present on President's Night, and those who do not attend are warned they will regret their failure to do so.

THE DAVIDSON LECTURE

The sixth Davidson Lecture is to be given on October 8, 1941. Physicians and scientists who wish to compete for the privilege of being the lecturer on that occasion must observe the following rules:

"The selection of the Davidson Lecturer shall be on the basis of competition, the winning essay to be selected by a subcommittee consisting of five (5) members of the Executive Board appointed by the Chairman. No member can serve on the committee who may desire to compete.

"The competition shall be thrown open to physicians or other scientists working in the District of Columbia.

"The essays to be submitted must bear no indication of the author's identity, being signed by a nom de plume. The identification of the author must be in a sealed envelope bearing on its surface the same nom de plume. No essay may be submitted that has been published.

"Essays should be submitted to the Secretary of the Medical Society of the District of Columbia not later than July 1 of odd numbered years.

"In case no essay is found worthy of an award, the subcommittee shall declare no award; the lecturer then to be selected by the full Executive Board."

It is desired that wide publicity be given this contest so that as many Washington physicians and scientists can participate as possible.

The Chairman of the Subcommittee of the Executive Board is Dr. Thomas E. Neill. Other members of the subcommittee are Drs. Raymond T. Holden, Henry C. Macatee, William J. Mallory and Henry R. Schreiber.

Those who wish to participate are reminded that all essays must be in the hands of the Secretary not later than July 1, 1941, and that no manuscript will be accepted after that date.

PERTINENT PARAGRAPHS

January Meetings Immediately after the first of the year numerous meetings of the various boards and committees were scheduled. They increased in number throughout the month and February will undoubtedly see the Society at its maximum activity.

The following meetings were held during January:

January 6	Board of Censors
January 8	Scientific Meeting of Society
January 9	Subcommittee on Maternal Welfare
January 10	Membership Committee
January 13	Committee on Postgraduate Education
January 14	Committee on Relations of the Medical, Dental, Pharmaceutical and Nursing Professions
January 15	Committee on Medical Resources Scientific Meeting of Society
January 16	Section on Neurology and Psychiatry
January 17	House Committee
January 21	Medical Bureau Committee
January 22	Scientific Meeting of Society
January 23	Section on Pediatrics
January 27	Executive Board
January 28	Committee on Medical Resources
January 29	Scientific Meeting of Society
January 30	Subcommittee on Maternal Welfare
January 31	Committee on Postgraduate Education Committee on Industrial Medicine

Representatives of Professions Meet

A significant meeting was held by representatives of the medical, dental, pharmaceutical and nursing organizations of the District of Columbia on January 14, 1941. Various matters in which all were interested were discussed, among them being preparedness, health legislation and drug laws. No definite program was decided upon, it being agreed that succeeding meetings should be devoted to various topics and that before any action is taken, recommendations should be made to the participating groups.

Dr. Lyman B. Tibbetts, representing the District Medical Society, was elected General Chairman. Those present were: Dr. F. X. McGovern, Chairman of the Medical Society's Executive Board, and Theodore Wiprud, Secretary of the Society; Mr. A. T. Taylor and Dr. W. Paul Briggs of the District of Columbia Pharmaceutical Association; Dr. Karl H. Wood of the District of Columbia Dental Society; Miss Annabelle Petersen, President of the Graduate Nurses' Association of the District of Columbia, and Miss Edith M. Beattie, Secretary of the Association.

The next meeting of the group, to be known as the Committee on Relations of the Medical, Dental, Pharmaceutical and Nursing Professions, will be held on February 10.

Dr. Van Etten to Speak

The Society will have a distinguished guest at its business meeting on March 5, Dr. Nathan B. Van Etten, President of the American Medical Association. This is the first time that Dr. Van Etten has visited Washington in his official capacity and a large attendance is expected.

Dr. Van Etten, long an outstanding medical leader, is a man of unusual ability. He has an intimate knowledge of the issues confronting medicine and views them realistically. Furthermore, he does not hesitate to state his position in regard to them. Members of the Society are fortunate in having the opportunity of hearing Dr. Van Etten, particularly at this time.

Formerly Speaker of the House of Delegates of the American Medical Association, Dr. Van Etten became President-elect in 1939.

Bureau's Progress

MEDICAL BUREAU's second month of operation was marked by an impressive increase in the number of calls, especially from the public seeking information. More use of the BUREAU was also made by patients wishing to get in touch with their physicians. The Medical Bureau Committee is enthusiastic about this progress and believes that the BUREAU has demonstrated beyond doubt its real potentialities in so far as its value to the profession and public in Washington is concerned.

The following is a resumé of the calls handled during the month of January:

Calls completed from patient to physician	1,159
Calls received from physicians reporting their whereabouts	586
Calls where the inquirer had no physician and where a doctor on the "Emergency List" was sent; or, if indigent, calls referred to the Health Security Administration, Permit Bureau or Police Department	50
Requests for names of physicians	206
Total number of calls	2,001

The total number of recorded calls received at the BUREAU during December was 1,320. Neither this figure nor those above include the many miscellaneous inquiries which were received.

Several physicians have already indicated their desire to subscribe and it is expected that the number necessary to make the BUREAU self-sustaining will be obtained before the end of February. An intensive campaign to enroll new subscribers will be conducted during the month.

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Hours of Meeting

About a year ago the Society's membership was canvassed for the purpose of ascertaining its views in regard to the hour at which Society meetings should begin. Complaints had been received that the hour was too early to permit attendance by general practitioners and it was urged that if meetings were delayed for one half or three quarters of an hour, many more would attend. Only 132 replied to the questionnaire sent them, of whom 78 were in favor of setting the hour at 8:30 p.m. instead of 8:00, and 54 were opposed. The Executive Board considered this response inadequate and therefore took no action.

The solution, it appears, is not a change of time. However, it may be desirable for the Society to reduce the number of meetings. If this is done, the practitioner, if he is seriously interested in the Society and its program, will find a way to be present. Participation in any medical group is not possible without some inconvenience and it is to be hoped that more members will come to recognize this fact.

Underground Hospital Units

Of all preparedness measures that have been proposed, none carries a grimmer note than that of Dr. Charles F. Bove, former chief surgeon of the American Hospital in Paris, who is quoted in the press as expressing alarm over the lack of preparations in this country for evacuation and for tending the wounded in the event of an emergency.

Dr. Bove urges that hospitals be built 35 to 40 feet underground outside New York and other major cities. He believes that preparations for wartime conditions should be made at once, citing the chaos which will otherwise exist if this country becomes engaged in war.

It is difficult for people of this country to adjust themselves to the thought of such preparations. A year ago the proposal that Dr. Bove makes would have seemed ridiculous. However, with world conditions as they are, we can conceive that such steps will have to be taken.

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Where Our "Power" Lies

The following editorial, entitled "The Power of Organized Medicine," appeared in the January 4 issue of the *Weekly Roster and Medical Digest*.

"The current issue of *The American Scholar* contains a letter from Dr. Morris Fishbein taking to task an author of a previous article in this magazine, and a reply by Dr. Hugh Cabot. Several times Dr. Cabot refers to the 'power' of organized medicine over its members. One hears often from lay sources of this mythical power but it comes as a surprise from a physician of the standing of Dr. Cabot.

"One wonders where this power over membership in a democratic body lies. In a trades union, the member is rather completely dependent upon his membership to secure and hold a job. With so many 'closed shops' he is hard pressed to secure any work if his union sees fit to expel him for any reason.

"There is nothing comparable to this in organized medicine. Constituent medical societies and the American Medical Association have no control over the opinions of their members. They demand ethical conduct, it is true, and can expel a member for unethical practices, but this will have little or no effect upon his income. Very few if any of his patients care whether he is a member of organized medicine or not. In some cases, such expulsion will bar the physician from certain hospitals but he usually can find private hospitals or other general hospitals which will receive his patients. Even this does not apply to the bulk of the profession, who do no hospital practice."

This editorial should appeal to ANNALS' readers as containing a lot of truth and common sense.

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1941 Annual Scientific Assembly

Plans are under way for the 1941 ANNUAL SCIENTIFIC ASSEMBLY, which is to be held September 30, October 1 and 2 at the Mayflower Hotel. Consideration has already been given to the type of scientific program to be presented. Emphasis will be placed this year upon subjects of special interest to general practitioners. Further details in regard to the program will be announced in the very near future.

Dr. John R. Cavanagh is General Chairman of the Committee on Arrangements this year. Chairmen of subcommittees are:

Attendance: Arnold McNitt
Auxiliary Liaison: Henry B. Gwynn
Banquet, Luncheon and Entertainment: Frank A. Hornaday
Finance: George K. Nutting
Program: Matthew White Perry
Publicity: Earl R. Templeton
Public Meeting: James N. Greear, Jr.
Scientific Exhibits: Russell J. Fields
Women Physicians: Elizabeth Parker

Subcommittees will become active within the next week or two. Every effort will be made to have the coming ASSEMBLY meet, and if possible exceed, the high standards which have been set in recent years.

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Deaths from Cancer

Some interesting data was presented by Dr. Daniel L. Seckinger, Assistant Health Officer of the District and a member of the Cancer Control Committee of the Medical Society of the District of Columbia, at a joint meeting of the Committee and the Subcommittee on Cancer Control of the Public Health Committee of the Medico-Chirurgical Society of Washington at Howard University Medical School on December 18. Dr. Seckinger said:

"In the year 1880 when the population of the District of Columbia was 180,349 the death rate per 100,000 population from cancer was 38.0. In the year 1939 the death rate from cancer was 156.5, an increase of 118.5 per 100,000 population. The number of persons who died from cancer and other malignant growths in 1880 was 56 white, 13 colored, and the total deaths from this cause was 69. Last year the deaths were as follows: white 747, colored 270, and total 1,017. The per cent of colored to the total population in 1880 was about 34, while the proportion of colored cancer deaths to all cancer deaths was 18.8 per cent. In 1939 the proportion of colored to the total population was about 27 per cent and the percentage of colored deaths to total cancer deaths was 26.5. This would indicate a decided increase among the colored as compared with the white. However, it should be borne in mind that this apparent difference may be due in part to better diagnoses.

"Attention is directed to another point to be considered in comparing the cancer death rates of the white and colored races, i.e., that cancer is essentially a disease of the mature and the aged and not a disease of youth. It is a well known fact that the average age at death of white persons, both male and female, is considerably higher than that of the colored. This is made clear by the following statement. The average age at death of all persons who died in the District of Columbia during the calendar year 1939 was 52 years and 7 months. The average age of the male white was 55 years 1 month; female white 59 years 11 months; male colored 43 years 2 months, and female colored 45 years 7 months. Sixty-nine per cent of those who died of cancer had passed their fifty-fifth year of age. It is, therefore, apparent that a large proportion of the colored population die of other causes before reaching the age of greatest susceptibility to cancer and other malignant growths. Among the white, 72 per cent of the cancer deaths are persons who have reached the fifty-fifth year, while among the colored only 59 per cent have attained that age."

Although there may be some question about the accuracy of the statistical records which were kept fifty years ago, more recent data discloses an alarming increase in the number of deaths due to cancer. The need for more vigorous efforts to combat this disease is obvious and the coöperation of every physician needed.

KOBER LECTURE MARCH 28

One of the outstanding medical events of the year will be the Kober Memorial Lecture on March 28. The Lecture marks the birthday anniversary of the late Dr. George Martin Kober. Under the terms of the Endowment Fund which he created, the Medical Society of the District of Columbia makes the selection of speaker from members of designated local scientific organizations every third year.

Dr. John R. Mohler, Chief of the Bureau of Animal Industry, is the Society's choice this year. Dr. Mohler, who for nearly half a century has been making an intensive study of diseases of animals communicable to man, will present a paper on "Undulant Fever."

Dr. Mohler was born in Philadelphia, May 9, 1875 and received the degree of Doctor of Veterinary Medicine from the University of Pennsylvania in 1896. Honorary degrees of Doctor of Science have been conferred upon him by the University of Pennsylvania, Iowa State College and the University of Maryland. Dr. Mohler holds membership in the American Public Health Association, the Royal Society of Medicine (Great Britain) and the Society of Experimental Biology and Medicine. He was President of the American Veterinary Medical Association in 1913.

John R. Mohler, D.V.M., D. Sc.

The Kober Lecture will be given under the auspices of Georgetown University at Gaston Hall, March 28, 1941, at 8:00 p.m. Members of medical organizations, medical students, scientists and others interested in this subject are cordially invited to attend. The Executive Board is confident that an excellent speaker has been selected and that the subject is one which will create wide interest in medical and scientific circles in Washington and nearby states.

MEDICAL SUPPLIES FOR BRITAIN

In aid of Britain, valuable and useful drugs, instruments and appliances have been received from members of the Medical Society. Six large packages of these have been expressed to the Medical and Surgical Supply Committee of America, 420 Lexington Avenue, New York, and grateful acknowledgment received.

Doubtless many other members have both drugs and instruments in their offices which could be spared for the laudable purpose of British relief. All such donations will be gratefully received and acknowledged. Please hand them in yourself or call the Railway Express Agency, who will collect packages and deliver them to the Medical Society's building.

PRESIDENT'S PAGE

DO YOU KNOW—

That the Woman's Auxiliary of the Medical Society of the District of Columbia was organized in 1925 and now has a membership of 310 women?

That 100 women of the Auxiliary served as aids to the Washington Hospitals during the three-day Red Cross drive in the fall of 1940?

That the Woman's Auxiliary guaranteed the sum of $250 for the Doctors' Hobby Show held in connection with the 1940 Annual Scientific Assembly and that they had present at all times members of their organization to guard and help with the exhibits?

That the Woman's Auxiliary grossed over $650 at their annual benefit held at the Shoreham Hotel on November 19, 1940?

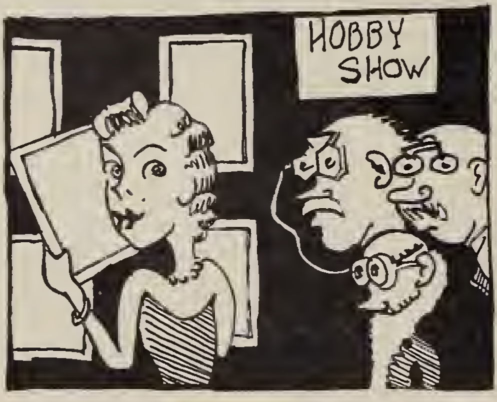
That the Philanthropic Committee of the Auxiliary offers diverse and interesting opportunities for work, in local as well as war relief agencies?

That the Woman's Auxiliary has accepted the full responsibility, except financial, for the care and maintenance of the newly decorated library?

That the Woman's Auxiliary filled and distributed 117 gift Christmas stockings to the children of the "In Bed Club of the Washington Heart Association"?

That the Woman's Auxiliary completes this year its financial obligation that has made possible the training of a nurse at Sibley Hospital and that a new Educational Project will be started this fall?

That one of our sick and destitute doctors is being helped financially by the Woman's Auxiliary?



That there is a movement on foot to establish a closer coöperation between the Medical Society and the Woman's Auxiliary?

That your wife can help you and the profession by being a member of the Woman's Auxiliary?

Is your wife a member of the Woman's Auxiliary?

DO YOU KNOW?

Daniel Le Ray Borden

MEDICAL PREPAREDNESS NEWS

Early in January, Lieutenant Colonel A. C. Gray, State Medical Officer for Selective Service in the District of Columbia, requested the Committee on Medical Resources to submit the names of additional examining physicians. The following physicians were recommended and their appointments have since been confirmed:

District No. 1	John R. Cavanagh
District No. 2	Joseph J. McHale
District No. 3	Frank M. McChesney
District No. 4	Benjamin Newhouse
District No. 5	Clarence L. Miller
District No. 6	Alfred H. Richwine
District No. 7	Emmett H. Markwood
District No. 8	John W. Trenis
District No. 9	Melville B. Fischer
District No. 10	Charles G. Aronstein
District No. 11	*Merrill H. Curtis
District No. 12	*Edwin J. Watson
District No. 13	Richard T. Sullivan
District No. 14	R. Lomax Wells
District No. 15	Francis W. Dunne
District No. 16	Philip A. E. Stebbing
District No. 17	Thomas F. Collins
District No. 18	Philip A. Degnan
District No. 19	*Walter S. Savoy
District No. 20	Percy A. Bryant
District No. 21	F. Neilson Strawbridge
District No. 22	Max E. Feldman
District No. 23	Edward A. Kelley
District No. 24	Richard J. McNulty
District No. 25	*Ulysses L. Houston

It was found necessary, because of the large number of registrants to be examined on January 24, 28 and 31, to seek additional hospital facilities. Georgetown University Hospital was obtained and Dr. Henry R. Schreiber appointed Chief Examining Physician at that institution.

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Additional examining physicians are needed and every effort is going to be made by the Committee on Medical Resources in the next few weeks to obtain them. It is hoped that a greater number of general practitioners will signify their desire to participate. A communication is going forward to the membership emphasizing the importance of the coöperation of every member. The Committee will point out that if all those who can possibly do so will make their services available, it will obviate the necessity of adopting other methods to obtain the necessary physicians.

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The following additions have been made to Medical Advisory Board (A):

Urologist: William C. Stirling
Dermatologist: Frank J. Eichenlaub

Two additional Advisory Boards were recently appointed. The personnel of these Boards is as follows:

Medical Advisory Board (B):

Internist	Frank A. Hornaday
Ophthalmologist	James N. Greear, Jr.
Otolaryngologist	Don Johnson
Orthopedist	Custis Lee Hall
Surgeon	Wm. B. Marbury
Psychiatrist	Joseph L. Gilbert
Clinical pathologist	Robert A. Keilty
Radiologist	Morris I. Bierman
Urologist	James M. Fadeley
Dermatologist	Russell Fields
Dentist	M. M. Alexander

Medical Advisory Board (C):

Internist	Caryl Burbank
Ophthalmologist	G. Victor Simpson
Otolaryngologist	Harry F. Davies
Orthopedist	Phil O. Pelland
Surgeon	Fred R. Sanderson
Psychiatrist	A. B. Evans
Clinical pathologist	Maurice A. Selinger
Radiologist	Joseph Elward
Urologist	Ralph M. LeComte
Dermatologist	Joseph V. Kennedy

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Word has been received at the Medical Society's office that the following members of the Society have been called into military service during the past month: Drs. Elmer W. Fugitt, Frank B. C. Geibel, Stewart M. Grayson, Edward A. Krause, H. J. Russell McNitt, Edward Clarke Morse, Harry B. Orleans, John H. Peacock, Jr., Ivy A. Pelzman, S. Ross Taggart and Maurice van Kinsbergen.

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* Recommended by the Medico-Chirurgical Society, Inc., of Washington.

MEETINGS

Wednesday, March 5

Business Meeting

Speaker: Nathan B. Van Etten, M.D., F.A.C.P., President of the American Medical Association

Buffet Supper

Wednesday, March 12

The *Section on Neurology and Psychiatry* will present the following program:

"The Physician as a Therapeutic Agent." Ira S. Wile, M.D., Associate in Pediatrics, Mount Sinai Hospital, New York, and Associate Editor of the *American Journal of Orthopsychiatry*

"A New Type of Cranial Burr." John J. Shugrue, M.D., Professor of Neurosurgery and Director of the Department of Neurosurgery, Georgetown University School of Medicine

Wednesday, March 19

Program will be furnished by the *Obstetrical Board*. Subject: "Salvaging Lives—1940: Progress Report of Obstetrical Board."

(Speakers and titles of papers to be announced)

Wednesday, March 26

"The Use of the Vaginal Smear in Clinical Endocrinology," illustrated with lantern slides. Ephraim Shorr, M.D., Assistant Professor of Medicine, Cornell University Medical College, New York

"Procedures in Diagnosis of Female Endocrinopathies: Part I—Clinical Studies; Part II—The Endometrial Biopsy," illustrated with motion pictures. Jacob Kotz, M.D., Clinical Professor of Obstetrics and Gynecology, George Washington University School of Medicine and Elizabeth Parker, M.D. Discussion will be opened by Emil Novak, M.D., F.A.C.S., Associate Professor of Obstetrics, Maryland University School of Medicine

Wednesday, April 30

President's Night

MEMBERSHIP

The following applicants were duly elected to membership at the business session, January 22, 1941:

Active Members

Miriam Frances Dunn, 2032 Belmont Road, N.W.
Clarence Richard Hartman, 2111 Bancroft Place, N.W.
C. Francis Scalessa, 2929 Connecticut Avenue, N.W.
Samuel Hazen Shea, 1028 Connecticut Avenue, N.W.
Sylvan A. Steiner, 6100 Third Street, N.W.
John C. Sullivan, 2023—38th Street, S.E.

Associate Members

Harold Milton Walton, 6840 Eastern Ave., N.W., Takoma Park, D. C.
Morris Silverman, 3100—11th Street, N.W.

The following applicants for membership will be voted on at the business meeting, March 5, 1941:

For Active Membership

George H. Crofton, University of Maryland—1914
Ben Klotz, Yale University—1926
Philip J. Lowenthal, University of Oklahoma—1938
Robert T. Morse, Northwestern University—1934
Julius John Radice, George Washington University—1935
Isidore Shulman, George Washington University—1934
John A. Washington, Johns Hopkins University—1930
Ruth Mitchell White, University of Vermont—1939
William A. Withers, Rush Medical College—1936

For Associate Membership

Verne Kenneth Harvey, Indiana University—1929

Recent changes in membership status:

Resigned
Associate Members

E. J. Alexander
Thomas V. Hammond
Richard K. Thompson

Six New Life Members

Chapter II, Article IV, of the Constitution of the Society, reads as follows:

> Life members shall be active members who have been active members for a total of forty years. They shall have all of the privileges of active membership and shall be exempt from paying dues and assessments.

Our honor roll now numbers 61. The congratulations of the Society are extended to:

Seniority Number		Date of Membership
262	Daniel W. Prentiss	April 10, 1900
265	William C. Gwynn	April 23, 1900
266	A. Frances Foye	April 27, 1900
273	Howard Fisher	October 13, 1900
275	Sothoron Key	October 26, 1900
277	Luther H. Reichelderfer	October 31, 1900

who have for forty years been on the roster, meeting all dues and assessments and lending their support to the Society by frequent attendance. Their status is now elevated to Life Membership.

NEWS AND PERSONALS

The Sectional Meeting of the American College of Surgeons will be held March 17, 18 and 19 in Pittsburgh, as announced in the January issue of the MEDICAL ANNALS. Headquarters will be at the William Penn Hotel.

The 21 approved hospitals of Pittsburgh will provide an excellent clinical background for the College meeting. Operative and nonoperative clinics will be conducted each morning during the meeting. There will also be demonstrations of hospital procedures for executives attending the Hospital Conference.

Distinguished surgeons from all parts of the country will address the scientific sessions and lead the conferences and panel discussions. Among them will be the President of the College, Dr. Evarts A. Graham, Professor of Surgery at Washington University Medical School, St. Louis. At the headquarters hotel, there will be educational and scientific exhibits and showing of motion pictures portraying surgical and hospital procedures. The final feature of the Conference will be a public meeting the evening of March 19. The subject on this occasion will be "Conservation of Health."

The medical profession at large, as well as hospital trustees, superintendents, pathologists, dietitians and other hospital executive personnel are invited to attend the sessions of the sectional meeting and the Hospital Conference.

Among the participating speakers will be Drs. Robert H. Kennedy, John Scudder and Paul M. Wood of New York City; Dr. E. Jefferson Browder of Brooklyn; Dr. Samuel A. Cosgrove of Jersey City; Dr. Hugh T. Trout of Roanoke; Dr. E. C. Hamblen of Durham, N. C.; Drs. George P. Muller, E. L. Eliason and G. C. Engel of Philadelphia; Dr. J. L. Atlee, Jr. of Lancaster, Pa.; Dr. Arthur G. Davis of Erie, Pa.; Dr. Charles Bagley, Jr. of Baltimore; Dr. John O. Rankin of Wheeling, W. Va.; Drs. C. C. Higgins, Donald M. Glover and George W. Crile, Jr., of Cleveland; Dr. Alton Ochsner of New Orleans; Dr. James B. Brown of St. Louis; Drs. Alfred W. Adson and J. deJ. Pemberton of Rochester, Minn.; Dr. Roy D. McClure of Detroit; Dr. Arthur Steindler of Iowa City; Drs. Philip H. Kreuscher, Michael L. Mason and Fred E. Adair of Chicago.

Members of the local Executive Committee are Dr. Harry H. Kerr, *Chairman*, Dr. Charles S. White, *Secretary*, and Dr. William B. Marbury, *Counselor*.

The 37th Annual Congress on Medical Education and Licensure will be held at the Palmer House in Chicago, February 17 and 18. This meeting is sponsored by the Council on Medical Education and Hospitals of the American Medical Association.

The George Washington University School of Medicine will hold a Postgraduate Clinic on Saturday, February 15 from 9:30 a.m. to 4 p.m. There will be clinics conducted by Dr. Charles Mayo of Rochester, Minn., on "Diseases of the Colon" and by Dr. Paul D. White of Boston on "Heart Diseases." Two papers will be presented: "Nutritional Diseases," Tom D. Spies of Cincinnati; "Use of Plasma," Dr. Charles Stanley White. The meetings will close with a banquet at the Mayflower Hotel.

Correction: The Tenth Postgraduate Clinic of the Dental Association of the District of Columbia will be held March 9–13 instead of May 9–13, as was incorrectly announced in the last issue of the ANNALS. Members of the Medical Society are cordially invited to attend.

The Society's Speaker's Bureau has provided speakers for a number of organizations since the first of the year. In coöperation with the Y.M.C.A., the Bureau is furnishing the following speakers during February for their series of health lectures:

February 3: "Be Good to Your Eyes," Dr. Benjamin Rones
February 10: "Recent Discoveries in Nutrition in Relation to Health," Dr. W. H. Sebrell
February 17: "Emotional Stability and Health," Dr. John E. Lind
February 24: "Stomach and Intestinal Disorders," Dr. William M. Ballinger

Following is a list of the talks that have been given before other groups:

January 27—Parent-Teacher Association, Cherrydale School, Arlington, Va.: "It May Be Catching," Dr. David L. Weinstein
February 11—Early Birds' Breakfast Club: "Should a Doctor Advertise?," Dr. James A. Gannon

February 12—Voluntary Hospital Workers, American Red Cross: "The Relationship of Mental, Emotional and Physical Aspects of the Care of the Sick," Dr. Elmer Klein

February 12—Class for Prospective Fathers, Columbia Hospital: "Birthmarks," Dr. L. K. MacClatchie

The Section on Gastroenterology held a meeting February 3 at the Wardman Park Hotel. Dr. Fred O. Coe spoke on "Difficulties in Roentgen Diagnosis of Lesions of the Gastrointestinal Tract." Drs. Fred A. Geier, Leo T. Brown, Henry R. Schreiber, William M. Ballinger, A. F. Kreglow and Isidore Lattman presented case reports, followed by round table discussion.

The following program was presented before the **Section on Neurology and Psychiatry** at its meeting February 6: "The Hyperactive Child," Dr. John Russell, Catholic University; "Democracy Versus Autocracy in Child Rearing," Dr. Leo Kanner, Associate Professor of Psychiatry, Johns Hopkins University School of Medicine.

The Washington Ophthalmological Society met for its regular meeting January 6 at the Episcopal Eye, Ear and Throat Hospital. A Symposium on Practical Office Procedures was conducted, with presentation of the following papers: "History Taking and Preliminary Examination," Dr. Harold Downey; "Refracting Routine," Dr. Victor Simpson; "Special Aids to Refraction," Dr. Leonard Goodman; "Routine Muscle Balance Tests," Dr. Ernest Sheppard. Case presentations were made by Drs. James Greear, Ronald Cox, Leonard Goodman and Edward S. Platt (by invitation).

The Clinico-Pathological Society has held several bi-weekly meetings since the first of the year. Case reports were presented by Drs. Edwin A. Merritt, John Minor and William B. Marbury on January 7, and by Drs. John A. Talbot, William B. Marbury and Prentiss Willson on January 21. Dr. Edwin A. Merritt addressed the group February 4 on the subject, "Cancer of the Tonsil."

The Jacobi Society postponed its meeting from January 20 to January 27 due to Inauguration Day. Dr. David Davis addressed the group on "Tuberculous Tracheo-Bronchitis."

The Women's Medical Society held meetings January 7 and February 4 at the homes of members. At the January meeting, Drs. Carolyn Pincock and Naomi Kanof presented a paper jointly on "Mortality Rate of Premature Infants." Dr. Inez Wilber read a paper entitled "Xeroderma Pigmentosum" at the February meeting.

Another **Smith-Reed-Russell lecture** was held at George Washington University School of Medicine, January 14, with Dr. Henrik Dam of Copenhagen as guest speaker. The subject of his address was "Vitamin K: (a) Its General Significance in Biochemistry; (b) Its Role in Human Pathology and Its Application in Therapeutics."

Health Security Administration reports that in 1940, 45,394 persons were interviewed, recorded, cleared, investigated and hospitalized. This involved an expenditure of $552,902.81. Overhead expenses amounted to $31,847.27 or only 5.76 per cent cost.

The Administration collected $220,112.72 from individuals who were found to be able to pay something and, in addition, there is due in good accounts $158,429.10. The total $378,541.82 represents what has been salvaged from what would ordinarily be uncollectible. This was done at an expense of $14,181.50 or 3.74 per cent cost.

Since September 1940 the Administration has made no deductions for budgeting private and hospital bills. This means the elimination of the 10 per cent charged physicians as well as hospitals.

The 37th Annual Meeting of the Graduate Nurses' Association and the League of Nursing Education of the District of Columbia was held at the Willard Hotel, January 27 and 28. Dr. Harry Stack Sullivan, President of the William A. White Psychiatric Foundation, addressed the first session of a Symposium on Mental Hygiene, using for his topic, "The Patient Looks at the Nurse." Dr. Paul F. Dickens, Director of Cecelia Cummings Research Fund and Clinic, talked on "Endocrine Disturbances and Their Relationship to Emotional and Mental Problems in Everyday Life."

At the second session of the Symposium, Dr. James A. Gannon, member of the District Board of Education, spoke on "Normal Living." He was followed by Dr. Sanders Lachman of Children's Hospital, whose subject was "Protecting the Mental Health of the Growing Child." Dr. Aloysius Church of Catholic University, the third speaker, read a paper entitled, "The Well-Integrated Child—Some Factors Retarding Satisfactory Adjustment."

The new **Tuberculosis Annex and Nurses' Home of Freedmen's Hospital** were dedicated on January 21 at ceremonies sponsored by the Federal Security Agency and the United States Public Health Service. Mrs. Franklin D. Roosevelt gave the dedicatory address. Secretary of Interior Ickes, as head of Public Works Administration which financed the construction of the buildings, formally presented them to Federal Security Administrator McNutt. Dr. T. Edward Jones, Director-in-Chief of the Hospital, presided. The Annex and Nurses' Home were built at a cost of $700,000.

Health Security Administration held its annual meeting and election of officers, January 23. Among those reëlected to office were Dr. Henry C. Macatee, *President;* Drs. Watson W. Eldridge and William DeKleine, *Vice Presidents;* Ross Garrett, *Administrator;* Willard C. Smith, *Secretary-Treasurer*. Reëlected to the Board of Trustees were Drs. John P. Burke, William DeKleine, Francis J. Eiseman, Watson W. Eldridge, Oscar B. Hunter, Henry C. Macatee, Margaret Nicholson and Herbert P. Ramsey.

Children's Hospital is the recipient of a new dental unit presented by the Washington Variety Club. At dedication ceremonies held January 21, Miss Mattie M. Gibson, Superintendent of the Hospital, accepted the gift.

The Red Cross Recreation Building of **St. Elizabeths Hospital** was destroyed by fire of undetermined origin on February 4. The estimated loss was $25,000.

Dr. Thomas Parran, Surgeon General of the United States Public Health Service, sailed for England on January 18 as one of the officials included in the American Commission to study health conditions, epidemic control, transportation and evacuation of children in Great Britain. It will seek information for use in preparing a civilian home defense mobilization plan for the United States. The Commission is sponsored jointly by the Division of State and Local Coöperation of the National Defense Advisory Commission and the War Department.

Dr. W. Calhoun Stirling participated in a Symposium on the Malignancies of the Urinary Tract at a meeting of the American College of Surgeons in Chicago, October 25, 1940. His paper was entitled, "Papillary Carcinoma of the Kidney." During the meeting of the Southern Medical Association at Louisville, Ky., Dr. Stirling presented a paper on "Hyperplastic Lesions of the Urinary Tract" before the Section on Urology, November 13.

Dr. Stirling and Lieut. Col. James E. Ash presented an exhibit before the Graduate Fortnight Assembly of the New York Academy of Medicine on November 28. They have been invited to present the same exhibit before the Annual Meeting of the New Orleans Graduate Medical Assembly, March 3, 1941.

Dr. William Gerry Morgan has been named chairman of the Washington branch of the American Bureau for Medical Aid to China. A group of Washingtonians interested in this project met at the Chinese Embassy January 28 for the purpose of organizing a committee.

(Continued from page 48)

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MEDICAL SOCIETIES WITH LIMITED MEMBERSHIP

WASHINGTON, D. C.

1940–1941

SOCIETY	PRESIDENT	SECRETARY	NO. MEETINGS PER YEAR	DATE OF MEETINGS	PLACE OF MEETING
Aesculapian	F. C. Allman	Weldon Price	12	1st Tuesday	
Association of Medical Fellows of Georgetown University	H. B. Gwynn	J. A. O'Donoghue	16	2nd & 4th Tuesdays	
Baltimore-Washington Dermatological	Howard Goodman, Baltimore	J. C. Bernstein, Baltimore	8	3rd Thursday	Alternating Baltimore and Washington
Clinical Club	H. S. Bernton	P. S. Constantinople	8	1st Tuesday	Cosmos Club
Clinico-Pathological	W. H. Jenkins	H. L. Darner	14	1st & 3rd Tuesdays	
George Washington University	W. B. King	L. H. French	8	3rd Saturday	G. W. U. Schl. of Med.
Georgetown Clinical	Harry Zehner	E. M. O'Brien	8	3rd Tuesday	University Club
Georgetown University Medical Alumni Club	J. A. Cahill, Jr.	P. J. O'Donnell	2	On call	
Hippocrates-Galen	W. M. Ballinger	Ernest Sheppard	8	1st Thursday	
International Medical Club	Lee McCarthy	P. S. Constantinople	—	On call	Mayflower Hotel
Jacobi	Isadore Rodis	Joseph Dessoff	8	3rd Monday	Ambassador Hotel
Kober	Russell McNitt	Harry Zehner	8	3rd Monday	Columbia Country Club
Mackall	Norvell Belt	J. E. Wissler	7	3rd Thursday	Kennedy-Warren Apts.
Medical Arts	R. J. Fields	G. B. Rude	7	2nd Thursday	University Club
Osler	J. J. Shugrue	A. B. Chinn	8	3rd Monday	
Pan American (D. C. Branch)	J. A. Lyon	L. B. Norris	4	Sunday	
Saint Elizabeths Hospital	R. J. Haws	M. B. Pettit	4	On call	St. Elizabeths Hospital
Syphilis Journal Club	H. H. Hazen	G. W. Creswell	5	Last Friday*	
Virginia, Maryland and District of Columbia	R. E. Moran	A. M. MacDonald	2	On call	Alternating Va., Md. & D. C.
Washington Academy of Medicine	W. F. Draper	E. C. Albritton	3	On call	Cosmos Club
Washington Academy of Surgery	W. B. Marbury	C. D. Briggs	4	2nd Friday†	
Washington-Baltimore Psychoanalytic	Frieda Fromm-Reichmann	D. M. Bullard	8	2nd Saturday	Shoreham Hotel, Wash.† Belvedere Hotel, Baltimore*
Washington Gynecological	R. L. Silvester	W. R. Thomas	5	4th Saturday‡	Columbia Country Club
Washington Heart	John Minor	B. W. Leonard	3–4	On call	
Washington Institute of Internal Medicine	L. C. Ecker	C. R. L. Halley	—	On call	
Washington Medical and Surgical	Russell McNitt	R. M. Bolton	7	4th Monday	Kennedy-Warren Apts.
Washington Ophthalmological	F. D. Costenbader	L. C. Moss	4	1st Monday*	Episcopal Hospital
Washington Society of Pathologists	V. J. Dardinski	Lt. Col. V. H. Cornell	8	1st Saturday	Army Medical Museum
Washington Urological	H. N. Dorman	I. A. Pelzman	6	Monday—every 6 weeks	Hay-Adams House
Women's Medical	Lillian Malone	I. H. Belk-Hobart	8	1st Tuesday	

* November, January, March, May.

† October, December, February, April.

‡ October, November, January, March, May.

Note: Most of these societies begin their regular meetings in October and continue through May.

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THE ROLE OF EFFORT, TRAUMA, WORK AND OCCUPATION IN THE ONSET AND SUBSEQUENT COURSE OF CORONARY ARTERY OCCLUSION*

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In considering the relation of effort, occupation and work to acute coronary artery occlusion it is necessary to differentiate this classical condition from the syndromes of angina pectoris, coronary insufficiency with infarction and contusion of the heart following trauma (table 1). The pain of angina pectoris results from a temporary ischemia which does not produce morphologic changes in the heart muscle and is usually relieved by nitroglycerin. The heart sounds, blood pressure, temperature and electrocardiogram remain normal and heart failure does not set in. Acute coronary occlusion, which results in gross infarction of the heart muscle, is associated with shock, gallop rhythm, a drop in blood pressure, fever, heart failure and a typical, progressive electrocardiographic pattern with deep Q waves and elevation of the RS-T segment. In acute coronary insufficiency there is a sudden disproportion between coronary flow and cardiac demand. The duration and severity of the ischemia is greater than in angina pectoris, resulting in scattered foci of necrosis in the myocardium, particularly the subendocardial region and papillary muscles. Coronary insufficiency is usually dependent upon an exciting factor which decreases the coronary flow or increases the work of the heart, such as acute hemorrhage, shock, tachycardia, heart failure, aortic stenosis, etc., and presents RS-T depressions without Q waves in the electrocardiogram. Contusion of the heart is, of course, related to some trauma to the chest which is usually nonpenetrating. Its clinical picture is variable, and may resemble either coronary occlusion or insufficiency depending on the extent and location of the traumatic lesion.

Because of a confusion of these syndromes in the past, a number of erroneous ideas have arisen concerning acute coronary occlusion, often without any evidence. One such concept is the causal relationship attributed to effort in the onset of coronary occlusion. This problem is of considerable interest to medicine in general since we have calculated, in a previous paper,[1]

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* From the Cardiographic Laboratory and the Medical Services of Mount Sinai Hospital, New York.

TABLE 1

Differentiation of Angina Pectoris, Coronary Insufficiency, Coronary Occlusion, Cardiac Contusion

	ANGINA PECTORIS	CORONARY INSUFFICIENCY	CORONARY OCCLUSION	CARDIAC CONTUSION
Physiology	Temporary ischemia Diminished coronary flow, increased heart work	Prolonged ischemia Diminished coronary flow, increased heart work	Prolonged ischemia Complete block of coronary flow	Direct or indirect trauma
Pathology	No acute changes	Infarction: focal, disseminated, subendocardial; often microscopic No pericarditis	Infarction: confluent, massive, through and through Pericarditis Mural thrombosis Embolism	Myomalacia Contusion Pericarditis
Predisposing Factors	Coronary sclerosis Hypertension	Coronary sclerosis Large heart Hypertension Aortic stenosis	Coronary sclerosis Hypertension	None
Exciting Cause	Exertion Excitement Eating Cold Insulin use Adrenalin use Tobacco use Trauma?	Exertion Excitement? Tachycardia Shock Hemorrhage Heart failure Operation Infection Trauma	None Operation?	Trauma
Duration of Pain	Transitory	Variable, often absent	Prolonged	Variable
Effect of Nitroglycerin	Relieved	Not relieved	Unaffected or intensified	Unaffected
Shock	Absent	Present	Present	Present
Nausea and Vomiting	Absent	Uncommon	Common	Occasional
Heart signs:				
Sounds..............	Unchanged	Poor, gallop	Poor, gallop	Poor, gallop
Failure..............	Absent	Present	Present	Present
Arrhythmia..........	Absent	Occasional	Common	Common
Blood Pressure	Same or rises	Falls	Falls	Falls
E.C.G.	Unchanged Transitory S-T depressions	S-T depressions	Definite pattern S-T elevations Q waves Reciprocal relation, leads 1 and 3	S-T depressions (S-T elevations in pericarditis)
Lungs	Unchanged	Congestion from heart failure	Congestion from heart failure	Trauma to pleura and lungs
Laboratory Findings	Normal	Fever? Leukocytosis? Sedimentation rate rapid?	Fever Leukocytosis Sedimentation rate rapid Azotemia Glycosuria	Leukocytosis Fever
Condition after Attack	Normal	Recovery variable	Prolonged illness	Variable

that after the age of 40 years 1 male in 54 and 1 female in 89 suffer an attack of coronary occlusion annually. This fact is particularly important to industry, since coronary occlusion affects persons within the age limits of employability and therefore the issue of compensation and reëmployability arises.

We have already published data on the influence of effort and other factors in acute coronary occlusion.[2] The present communication is a composite report, based on a study of 1,700 proved attacks. Although there are isolated references to this subject in the literature, they concern single cases or a small group.

THE ROLE OF EFFORT

We shall consider, first, effort as a factor in precipitating coronary occlusion. We have determined the events associated with the onset of 1,108 attacks by obtaining a very detailed history of the activities of the patient immediately prior to the attack and during the preceding hours, days and weeks. Compensation cases were excluded since the histories given by such patients have been found in the past to be unreliable. The results are given in table 2. Fifty-two per cent of the attacks occurred while the patient was asleep or resting, 21 per cent during mild routine activity, 16 per cent while walking, and 9 per cent during moderate activity, such as pressing, painting, baking, etc. In only 2 per cent of the cases was a history of unusual physical exertion obtained. These percentages rule out these activities as factors in the onset of occlusion, since they correspond with the portion of the day ordinarily spent in each of them. Thus, almost half of the day is usually occupied in sleep or rest, and therefore the occurrence of half the attacks during these states must be considered coincidental. The same is true of mild and moderate activity and particularly of unusual exertion which attended the attack in only 2 per cent of our cases. No matter how careful one is, some severe effort is performed during the day. Consequently, if effort were a factor in precipitating coronary occlusion, the two would be associated much more frequently and occlusion would be much more common than it is. It is noteworthy in this connection that at least 75 of our patients had been bedridden for considerable periods prior to the occurrence of the occlusion, for chronic illness, such as heart failure, cancer, surgical complications, etc.

TABLE 2

Types of Activity at Onset of Coronary Occlusion

(1700 attacks)

	NO.	PER CENT
1. Sleep	239	22.5
2. Rest: lying or sitting down	316	29.5
3. Ordinary mild activity	228	21.0
4. Moderate activity (except walking)	94	9.0
5. Walking	170	16.0
6. Unusual or severe exertion	21	2.0
7. Undetermined	40	
Total	1108	100.0

TABLE 3

Intramural Capillary Hemorrhage in Coronary Occlusion

Hypertensive and Nonhypertensive Patients

	HYPERTENSION	NO HYPERTENSION	UNKNOWN	TOTAL
Thrombosis associated with hemorrhage	52 (83.9%)	22 (95.7%)	14 (93.3%)	88
Thrombosis without hemorrhage	10 (16.1%)	1 (4.3%)	1 (6.7%)	12
Total	62	23	15	100

In contradistinction to these findings based on carefully elicited histories, some authors[3, 4] believe that effort may precipitate occlusion because of the occasional observation of an attack apparently related to physical activity. In the absence of concrete evidence, they theorize that effort produces coronary thrombosis by causing a rise in blood pressure, which in turn results in rupture of an intimal capillary and hemorrhage into a sclerotic plaque. In previous papers[2] we have pointed out that there is no evidence for these theoretic views and have adduced data against them. Furthermore, we have found that intimal hemorrhages are at least as frequent in nonhypertensive as in hypertensive patients (table 3). If sudden elevations in blood pressure produce intimal hemorrhages, the latter should be much more numerous in persons with hypertension since this condition is characterized by marked fluctuations in blood pressure. In this respect, it is noteworthy that in 25 of the 75 patients who had been bedridden prior to the attack and who were examined at autopsy, intimal hemorrhage was just as frequent as in the entire postmortem material (table 4). We wish also to emphasize here the pathologic findings of Horn and Finkelstein.[5] After careful histologic examination of many hearts with coronary occlusion, including the fatal cases in our series, they showed that intimal hemorrhage is very common in arteriosclerosis, and a common precursor of coronary thrombosis. They came to the conclusion that coronary thrombosis was an entirely fortuitous event in the course of coronary arteriosclerosis.

TABLE 4

Pathogenesis of Acute Coronary Occlusion in Patients Bedridden Prior to Attack

	25 BEDRIDDEN PATIENTS	ENTIRE SERIES 100 PATIENTS
Number of acute occlusions	41	172
Thrombosis or occlusion associated with hemorrhage	25 (61%)	100 (58%)
Thrombosis or occlusion unrelated to hemorrhage	15 (36.5%)	58 (33.5%)
Thrombosis of undetermined pathogenesis	1 (2.5%)	14 (8.5%)

In a paper[6] on premonitory symptoms in coronary occlusion, we showed that during this stage pain may be related to effort, but pointed out that this must not be confused with the actual attack of coronary occlusion.

THE ROLE OF OCCUPATION

There have been conflicting reports concerning the relation of occupation to occlusion.[2b] The latter has been reported by some to be common among the laboring classes, while other investigators have stated that it occurs more frequently among the sedentary class and persons in the higher strata of society, such as business executives and professional people.

In our series of 1,286 cases in which this factor was studied, coronary occlusion occurred with equal frequency among all occupational groups (table 5). Thirty-five and one-half per cent were manual workers, 19.5 per cent housewives, 11 per cent business men, 10 per cent retired, 9.5 per cent white collar and office workers, 9 per cent professional persons, and 5.5 per cent store workers. In order to compare this occupational distribution with that of the general population as given by the U. S. Census,[7] we divided our cases into three groups: workers and laborers; store, office and business men; and professional persons, and found that the ratios were almost identical with those in the general population in New York City. Thus, the first group comprised 51 per cent of our series and 55 per cent of the population; in the second group the figure 37 per cent was the same for both; the third group was 12 per cent in our series and 8 per cent in the population. This close correspondence eliminates occupation as a factor in coronary occlusion. Were coronary

TABLE 5

Occupations in 1286 Cases of Coronary Occlusion

	NO.	PER CENT
1. Workers and Laborers	459	35.5
2. Store Workers	73	5.5
3. White Collar and Office Workers	122	9.5
4. Business Men	142	11.0
5. Professional Class	113	9.0
6. Housewives	250	19.5
7. None or Retired	127	10.0
Total	1286	100.0

occlusion precipitated by effort, the incidence of strenuous occupations should be greater than that obtained in our series. Actually the percentage of sedentary persons was the same as that of heavy laborers.

The Role of Trauma

Although much has been written in the past in an attempt to prove a causal relationship between trauma and coronary occlusion, we have pointed out in a previous review[2e] of this subject that many of the published cases were actually instances of contusion of the heart and not coronary occlusion. Indeed, usually no distinction between these two conditions was attempted. Furthermore, cases have been presented without postmortem examination, and coronary occlusion was assumed despite the clinical similarity of the two conditions. Even when coronary occlusion was present, a long interval usually had elapsed between the occurrence of the trauma and death, and severe coronary artery disease was present. In such cases the coronary occlusion probably was not related to the trauma. It was concluded from our study of the literature and from our own experience that there was no definite evidence that trauma produced classical coronary occlusion. However, trauma, direct and indirect, does result in commotio and contusio cordis.

This subject requires much more careful and critical investigation than it has received. Too often doubtful cases of previous authors have been accepted as proved and cited as such by subsequent writers. Also, the effect of experimental trauma on the heart is quoted in respect to coronary occlusion, without appreciation of the fact that in these experiments[8,9] contusion of the heart, and not coronary occlusion, is produced.

Return to Work and Subsequent Course

Whether the patient should return to work following a coronary occlusion is of the utmost practical importance medically and economically. If he may return, how soon is it permissible to do so? Is it true, as some believe, that return to work leads to further coronary occlusion and heart failure? These questions are significant also from the standpoint of insurance, since numerous persons possess disability policies and it has been assumed that coronary occlusion always indicates permanent and total disability. Although some of these problems cannot as yet be answered absolutely, for many years we have urged a more hopeful outlook. Five years ago one of us[10] found that almost two thirds of 75 private patients had resumed their original work after recovery from an occlusion; only 8 per cent were completely disabled. Recently the results in 415 patients were published.[11]

At the present time we have detailed follow-up data on 422 private and ward cases who recovered from an attack of acute coronary occlusion. They were derived from all strata of society and were observed for intervals varying from 6 months to 15 years, the average duration being 3½ years. Twenty per cent were followed 5 years or more. The ratio of men to women was 4.5:1; almost 90 per cent were in the age group, 40 to 69 years, the sixth decade predominating. Three-quarters of the patients were seen in their initial attack, and almost all the others in their second.

Fifty-three per cent of our patients returned to work after recovery from the attack (table 6), 92 per cent of these doing so within 1 year (table 7). Actually, one half resumed their occupations within 3 months after discharge from the hospital and three quarters did so within 6 months. In the majority of cases, the work was full-time (table 6). The percentage of

TABLE 6

Rehabilitation in Coronary Occlusion (422 Cases)

Number of patients followed	422
Number who returned to work	225 (53%)
Full-time	132 (31%)
Part-time	93 (22%)

those returning to work was greater among the private cases than among the ward. Sex did not play a role in this respect.

TABLE 7

Time of Return to Work after Attack

	NO.	PER CENT
Never stopped work	10	6.0
3 months or less	81	47.0
3 to 6 months	42	24.0
6 to 12 months	25	14.5
1 to 2 years	11	6.5
2 to 3 years	2	1.0
4 years	1	0.5
6 years	1	0.5
Total	173	100.0
Unknown	52	
	225	

TABLE 8

Effect of Age on Return to Work

DECADES	NO. CASES	RETURN TO WORK		
		Full	Part	Total
30-39	26	14	5	19 (73%)
40-49	107	40	24	64 (60%)
50-59	165	50	38	88 (53%)
60-69	97	22	20	42 (43%)
70-89	27	6	6	12 (44%)
Total	422	132 (31%)	93 (22%)	225 (53%)

TABLE 9

Influence of Successive Attack on Return to Work

ATTACK	NO. CASES	RETURN TO WORK		
		Full	Part	Total
1	316	113	73	186 (59%)
2	93	17	19	36 (39%)
3 & 4	13	2	1	3 (23%)
Total	422	132	93	225 (53%)

Whether work is resumed or not is closely correlated with age; the younger the patient, the more likely is his return to work. In our series, 73 per cent of those in the fourth decade resumed work (table 8), whereas only 43 per cent of those in the seventh decade did so.

Another significant influence on rehabilitation following coronary occlusion was the presence of previous attacks. Fifty-nine per cent of those in their first attack resumed work, whereas only 38 per cent of those in their second attack and 23 per cent of those in their third attack did so (table 9). Thus, each successive attack reduces the probability of return to work. However, one patient was able to do so after his fourth attack.

TABLE 10

Influence of Occupation

OCCUPATION	NO. CASES	RETURN TO WORK		
		Full	Part	Total
1. Workers and Laborers	146	36	40	76 (52%)
2. Store Workers	25	7	7	14 (56%)
3. White Collar and Office Workers	51	25	8	33 (67%)
4. Business Men	35	17	2	19 (55%)
5. Professional Class	50	32	9	41 (82%)
6. Housewives	65	9	25	34 (52%)
7. None or Retired	20	0	0	0 (0%)
8. Unknown	30	6	2	8 (26%)
Total	422	132	93	225 (53%)

TABLE 11

Symptoms on Return to Work

	NO. CASES
Total patients working	225
No symptoms	117
Symptoms present	108
Angina pectoris	57
Weakness	44
Dyspnea	19
Miscellaneous	5

Although only half the laborers in our series resumed their occupation, two thirds of the white-collar and office workers and four fifths of the professional persons returned to work (table 10). Also, the majority of the latter worked full-time, whereas half the workers did only part-time. This difference may not be genuine, since the professional and executive class can actually do relatively light work although presumably full-time. In addition, there is a greater incentive to the resumption of work.

As was to be expected, many of the patients who did return to work complained of such symptoms as weakness, precordial pain and dyspnea. This was true of about half the group (table 11), particularly the laborers, white-collar workers and housewives. However, the symptoms were not severe enough to preclude work, and, indeed, in many of these patients similar symptoms had been present before the attack.

TABLE 12

Reasons for Failure to Work

	NO. CASES
Unable	94
Advised not to	53
Disability insurance	30
Not necessary to work	6
No job	7
Attack too recent	3
Unknown	4
Total	197

TABLE 13

Relation of Work to Further Attacks

	PATIENTS WHO WORKED	PATIENTS WHO DID NOT WORK
Number	225	197
Subsequent Coronary Occlusion	25	40
Subsequent Heart Failure	9*	22*
Subsequent Death	25	44

* Figures based on 120 ward patients who worked and 118 who did not.

The majority of patients who did not return to work gave as their reason angina pectoris or dyspnea or weakness (table 12). Examination of these patients disclosed that some degree of heart failure was not uncommon. However, a considerable group did not work merely on the advice of their physician or because they possessed disability insurance, and some patients naturally were unable to find positions. We believe that a considerable proportion of these groups could have resumed work had it been necessary. Thus, it is probable that in our entire series well over 60 per cent of patients recovered sufficiently to resume work.

The number of subsequent attacks of occlusion, the mortality rate, and the incidence of heart failure during this follow-up period were not greater in those who returned to work than in those who did not (table 13). It is apparent, therefore, that following recovery from an attack ordinary work does not predispose to further attacks of coronary occlusion or heart failure.

Summary

We have presented evidence, gathered from the observations in 1,700 attacks of coronary occlusion, that the onset is not related to any external factor such as effort, work, or trauma or to any particular occupation or social class. Coronary occlusion is the end-result of a progressive atherosclerotic process and occurs as often in the sedentary individual as in one engaged in active work. Thus, in our follow-up series the number of subsequent attacks of occlusion was the same in those who led a sedentary life or were actually invalids as in those who resumed work.

In relating coronary occlusion to effort, the error must not be made of confusing it with an attack of angina pectoris or coronary insufficiency. It is well known that effort is the commonest cause of angina pectoris, but the latter must be distinguished from occlusion. Another mistake is to consider the premonitory symptoms of coronary occlusion the actual attack. Coronary occlusion probably takes some time to form completely. During this period pain is often present and may be induced by effort. The actual occlusion, however, is independent of effort.

It is evident from our findings that an attack of coronary occlusion in itself is not reason for permanent or total disability. Indeed, the disability often does not extend beyond three to six months, and in all, at least half of the patients can resume their former occupations. This is true chiefly of those who are less than

50 years old and have sustained only 1 occlusion. It is true that although many patients have no symptoms whatever following occlusion, a good number who return to work complain of angina, dyspnea or weakness. However, these symptoms are usually mild and frequently had been present in the same degree prior to the attack. In any case they occur irrespective of the fact that the patient is working, since they persist as a rule even when he gives up his job. On the other hand, the presence of heart failure or a severe anginal syndrome, particularly at rest or after ordinary activity, are indications of disability. This is true also of persons who have recurrent occlusions. Even in such persons, however, some activity may be performed without detriment and may help the patient psychologically. Under the proper guidance of the physician the majority of persons who have recovered from an acute coronary occlusion may lead a useful life.

Our data point to a more hopeful outlook for the future following recovery from an attack of coronary occlusion.

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The Wide Use of Inoculations Should Banish Tetanus Menace. "The development and establishment of toxoid to prevent the highly fatal tetanus is a step of the greatest importance in preventive medicine, and its wide application should eventually lead to the complete elimination of tetanus in civil as well as military life," an editorial in the March, 1941 issue of *Hygeia, The Health Magazine* declares.

"A method is now available by which it should be possible to eliminate tetanus almost completely as a disease of human beings and of susceptible animals such as the horse," the editorial explains. "In view of the military situation today and the hazards to which combat forces are exposed, the program of producing active immunity against tetanus is particularly pressing and important. Ever since Ramon of the Pasteur Institute at Paris and his colleagues in 1924 originally advanced a method of producing an active immunity to tetanus, workers in that country and others particularly in Britain, Canada and the United States, have carried out extensive investigations on the refinement of the substance to be used, the technic of administration, the degree of immunity and its duration, as well as other problems inevitably associated with the development of a new method.

"The substance employed in building an active immunity is generally known as toxoid, though Ramon originally named it anatoxin. The effectiveness of toxoid is based on the fact that tetanus toxin can be made to lose its toxic or poisonous qualities by the addition of formaldehyde, although the toxoid retains its ability, when given to human beings or animals, to stimulate the production of antitoxin. Thus, subsequent exposure to the germ, or to its toxin, results in the rapid neutralization of the poisonous substances and the prevention of the disease. When such antitoxins are prepared by the body tissues it is called active immunity; this is in contrast to the passive immunity which is obtained by injecting antitoxin or serum produced in other animals.

"By a series of ingenious experiments carried out in the laboratory and by actual experience, it has been found that the most effective preparation of toxoid is obtained by using formaldehyde and heat as Ramon originally proposed, plus further refinement by precipitation with alum and washing. This toxoid, when given to patients or animals in two small doses about two to four weeks apart, produces a high degree of resistance to tetanus, although the process of developing immunity is slow and does not generally reach a satisfactory level until after a period of several months. This immunity can be further enormously stimulated by a third or 'boosting' dose given three or more months after the second of the two original injections.

"The immunity of tetanus obtained is of fairly long duration and may, indeed, be lifelong, though this point can only be established after the method has been in use for a longer period and has been subjected to further experimentation and observation. Many workers, however, have confirmed the fact that the immunity to tetanus established by giving this alum precipitated toxoid leaves the patient in a state which will enable his body defenses to produce rapidly additional immunity, either because of later stimulation by additional toxoid, or from the infection itself.

"The value of active immunity has had a wide trial in most of the armies of the world, including those of France, Russia, Italy and Britain. The recent experience of the British army during the evacuation of Dunkirk provided a good test of its value. Neither in that experience nor in any other have any cases of tetanus been known to occur in those who have been inoculated with toxoid.

"Tetanus toxoid has been satisfactorily combined with diphtheria toxoid and typhoid-paratyphoid vaccines. Indeed, many pediatricians today recommend the combined use of diphtheria and tetanus toxoid for small children in order to produce an active protection to both diseases. The evidence is also overwhelming as to the value of inoculated military personnel, and since the immunity obtained develops slowly, toxoid injections must be begun promptly and well in advance of any likelihood of extensive exposure. There have been few reactions to the inoculation and these, when they occurred, were mild."

THE PATIENT HAS A STROKE*

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When the patient has a stroke, even though it may have been anticipated, it is always a dramatic occurrence and calls for instant action on the part of the physician. The fact that it not infrequently occurs in a patient who is under treatment for some other condition, or in the husband or wife of a patient who is under the care of the physician, renders the situation all the more dramatic and calls for the utmost speed in response. It is truly one of the emergencies in general practice.

The severity of the attack varies greatly, from the mildest of dizzy spells that seem to indicate merely a transient vascular spasm, to a catastrophe comparable to the rupture of an aortic aneurysm into the pericardial sac with almost instant death. As a cause of sudden death, however, cerebral hemorrhage is quite uncommon, in comparison with coronary thrombosis or ruptured aneurysm, and practically all of these patients live long enough for a physician to be in attendance before death. In a series of some 400 cases of cerebral hemorrhage that I investigated some years ago from the autopsy records at St. Elizabeths Hospital there were only 2 cases in which death occurred within 2 hours, and both of these happened to be massive hemorrhages into the cerebellum with early and rapid compression of the medullary centers. Even the most extensive cerebral hemorrhage with ventricular inundation allows the patient to live for 6 hours or more.

The word "stroke" is used to designate both cerebral thrombosis and cerebral hemorrhage, and sometimes during the early stages it is rather difficult to decide which one is occurring. In view of the fact that cerebral hemorrhage, though more serious, is much rarer than cerebral thrombosis, it often behooves us to withhold a definite diagnosis until the course of the illness can be plotted.

Clinical Course

In the usual case we are presented with a patient who is unconscious and breathing rather stertorously, whose extremities are cold, whose skin is covered with sweat, and in whom there may be evidence of vomiting or involuntary evacuation and possibly a cut or bruise from having fallen or from injury during a convulsive seizure. Such injuries are sometimes sufficiently impressive to bring up the question of violence, and the physician should make accurate observations while at the same time refraining from needlessly disturbing the patient.

During the period of shock the patient should be moved as little as possible, particularly if the blood pressure is low. He should have an icecap to the head and warm pads to the feet and should be kept in bed well covered up, the head being low. Oxygen inhalation is more useful at this time than at any subsequent period, but it is doubtful whether stimulants such as caffeine, camphor and adrenalin have any value whatever. The condition is one of shock and should be treated as such.

When the shock passes off and the peripheral circulation again returns and the pulse becomes bounding and the face flushed, then a further examination of the patient is desirable in order to determine the nature and location of the disturbance. Neurologic examination at this time not infrequently discloses some inequality of the pupils with sluggish reactions, and not infrequently there is some deviation of both eyeballs away from the paralyzed side and toward the side of the thrombosis or hemorrhage. According to the French, "the patient looks at his lesion." If the patient is still unconscious the side of the paralysis can usually be readily determined by pressure over the styloid processes on both sides. Even a deeply unconscious patient will wince more or less, and the wincing reaction is preserved on the nonparalyzed side. By lifting up either arm and allowing it to drop the paralyzed arm is distinguished by the way in which it drops inertly, whereas an unparalyzed arm falls more slowly and is sometimes the seat of considerable hypertonus. If any reflexes are present, they are more apt to be found on the normal side than on the paralyzed one, since the cerebral shock gives rise to loss of reflexes. However, in certain cases, especially when hemorrhage is present, there may be transient rigidity of the paralyzed side indicating physiologic decerebration. This is a very grave sign indicating extensive damage.

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* Read before the Society, November 27, 1940.

The lower limbs are not as good a guide to the condition of paralysis, because there is usually less difference in the muscle tone. A Babinski sign is not infrequently found on both sides. However, when one leg is rather limp with absent patellar and Achilles reflexes and a positive Babinski sign, it can be stated quite categorically that the lesion is in the opposite hemisphere.

During this period all degrees of disturbance of consciousness from slight clouding to deep coma may be observed. Difficulty in diagnosis may be increased if the lesion happens to be in the dominant hemisphere, that is, the left hemisphere in right-handed people and vice versa, since aphasia may be present. In this condition, although the patient is conscious, he may be unable to say the words that he wishes to, or to understand what is being said to him. He may understand and be able to carry out simple commands, whereas he does not comprehend more complicated ones. In any event, it is well not to disturb the patient any more than it is warranted in a case of coronary thrombosis by having the patient sit up for examination of the pulmonary bases.

Clinical laboratory examinations are not particularly useful during this phase with the exception of the spinal fluid examination. For purposes of prognosis one is quite anxious to determine whether the condition is a cerebral thrombosis or cerebral hemorrhage, and the occurrence of blood in the spinal fluid will give an answer to this question. However, there are some hemorrhages that occur into the substance of the brain and yet fail to rupture through into the ventricles or the subarachnoid spaces. Whether or not blood is present in the spinal fluid, the pressure of the cerebrospinal fluid is of definite importance, since a low pressure practically always means thrombosis and a high pressure is apt to mean hemorrhage. In the later course of an extensive thrombosis, however, with marked edema of the brain, the pressure of the cerebrospinal fluid may rise.

Sometimes the etiology of the stroke may be determined by further examination of the spinal fluid for syphilis, but the occurrence of a fairly large number of polymorphonuclear leukocytes even up as high as 800 to 1,200 per cu.mm. should not rule out the diagnosis of cerebral thrombosis. Just as in the case of thrombosis in other organs, the response of the tissue to infarction is precocious exudation of leukocytes. If the infarct in the brain happens to be superficial, these leukocytes will spill over into the cerebrospinal fluid.

The blood count usually shows leukocytosis, sometimes as high as 15,000 to 18,000, and in rare instances an unsuspected leukemia may be found, establishing the etiology of the hemorrhage. The examination of the urine not infrequently shows a little albumin and some glucose, but there is no particular prognostic value in the occurrence of these substances, since both the albuminuria and the glycosuria are usually transient.

No matter what the diagnosis may be at this stage of the illness, the treatment is more or less the same and is dependent upon the clinical manifestations.

The period of emergency or shock having passed, and the probable nature of the condition having been determined, the treatment resolves itself into a choice of procedures aimed at producing a maximum of unhampered circulation in the brain. Brain cells cannot live for more than a few seconds entirely deprived of oxygen, but the rich capillary network throughout the cortex favors the preservation of nerve cells at the border of the infarcted area, even though their function may be temporarily abolished. Furthermore, a large area of cortex may be thrown out of function by what proves to be a relatively small lesion. Presumably, the occurrence of thrombosis in a small arterial branch is the signal for reflex contraction of the artery proximal to the point of obstruction. When the spasm relaxes, the circulation of the cortex is resumed, but while the nerve cells are still viable, their complex function has been abolished, at least temporarily. This arterial spasm is of itself rather dangerous, since it favors, through slowing of the current of blood, progressive retrograde thrombosis, with further involvement of larger and larger branches of the artery until possibly the whole artery is blocked and a fatality results. I have repeatedly seen progressive cerebral thrombosis of this sort, and one particularly demonstrative specimen in which three infarcts of different ages were present in the distribution of the middle cerebral artery, a small distal one, brownish and mushy, a larger more proximal one still in the stage of red softening, and a very large fresh one surrounding these others and extending up to the Sylvian fissure. The middle cerebral artery was found thrombosed throughout its length.

In treating cerebral thrombosis, therefore, the effort should be made not only to maintain the blood supply to the brain as favorably as possible, but to prevent the extension of the thrombosis to larger proximal arteries.

TREATMENT OF THE STROKE

The first essential in the treatment is absolute rest. Only for cleansing and for turning from side to back to side to prevent hypostasis should the patient be moved. Well-meaning friends and relatives should be excluded and the room should be darkened. As consciousness returns, the patient's bewildered questions should be answered in as soothing a manner as possible, and he should not be aroused to reply. Sometimes gentle massage of the limbs has a soothing effect upon the patient, although sometimes the reverse is true. Changing position keeps the skin in good condition. The care of the mouth is important, since neglect adds to the discomfort and irritation of the patient. Following the period of shock there is often considerable dehydration, and this shows up particularly in dryness of the mouth and tongue. I prefer half normal salt solution to the glycerin rosewater solution that is frequently employed, particularly if swallowing is difficult. Glycerin is hygroscopic, but if it remains in the mouth it can become quite irritating, so that crusts form on the lips and tongue where it is applied. When the patient is unconscious, or has difficulty in swallowing, liquids should be administered intravenously or subcutaneously, but even so the mouth may become dry. In some instances I have found that a water bottle with a gauze wick leading down into the patient's mouth delivers water sufficiently slowly so that the occasional reflex swallowing will take care of the patient's needs, at the same time keeping his mouth moist.

The question of fluids is an important one. In cases in which there is an elevation in the intracranial pressure due to hemorrhage or to cerebral thrombosis with edema, it is desirable to reduce the intracranial pressure by a number of different measures such as restricting liquids to one liter per day, repeated lumbar punctures, instillation of concentrated magnesium sulfate solution into the rectum, or intravenous injections of hypertonic glucose or sucrose. These measures, with the possible exception of lumbar puncture, are to be employed especially in spontaneous subarachnoid hemorrhage which usually follows rupture of an aneurysm of the circle of Willis. These measures probably serve to improve the cerebral irrigation, but on the other hand they tend to favor clotting, and this is what we seek to avoid in cerebral thrombosis. In cases in which hemorrhage is probably present, and in which the blood pressure is greatly elevated, bleeding is occasionally used as an emergency measure to reduce the blood pressure and favor arrest of hemorrhage. I have never seen any benefit result from this, however good it may be theoretically. The time to do a venesection is before the cerebral accident starts.

In cases of thrombosis, and most cerebral accidents are in the nature of thrombosis, the fluid balance of the body should be maintained by infusions of 5 per cent glucose in normal saline, usually to the extent of 1,500 to 2,500 c.c. per diem until the patient is able to swallow satisfactorily. The condition of fluid balance should be particularly watched in diabetics and nephritics, since the output of urine may be so excessive as rapidly to induce a state of dehydration with possible progressive thrombosis. I recall seeing one patient with severe diabetes whose temperature after the accident was 104°F. and whose pulse and respiration were extremely high. The prognosis seemed very dubious until the wide wet area on the sheet was noticed and the nurse assured me that she had to change the linen almost every hour. The administration of 5,000 c.c. of 5 per cent glucose in normal saline in 24 hrs. brought about a rapid change for the better with ultimate recovery.

The striking effectiveness of dilator drugs and anticoagulants in the restoration of the circulation in limbs threatened with gangrene should make us aware of the possibilities of such drugs in the treatment of cerebral thrombosis. Theoretically the vasodilator drugs would have little effect, on account of the paucity of vasomotor control over the cerebral arteries, but I expect to employ hirudin in some future cases of cerebral thrombosis. Blood transfusion is sometimes a lifesaving measure in severely affected patients whose cerebral irrigation is breaking down both from cerebral edema and from blood concentration.

Oxygen by mask or tube is indicated for cyanosis and for Cheyne-Stokes respiration. Morphine is definitely contraindicated on account of its depressing effect upon respiration, and phenobarbital is probably the best drug to combat restlessness and convulsions. It may be given up to 0.5 gram in 24 hours, preferably hypodermically, when the occasion warrants, but most patients are better without it.

The physician should be judicious in the application of remedies. Most patients are overtreated rather than neglected. A spinal puncture may be more disturbing to a patient than we realize, even though he appears unconscious; and the mild relief of intracranial pressure may not compensate for the extra hazard. Furthermore, the possibility of restoration to later activity should guide us to some extent in our treatment. I have at times regretted that the lifesaving measures applied were so effective in bringing back to consciousness a hopeless invalid, paralyzed and aphasic, when allowing Nature to take its course would have seemed the kindest thing to do. On the other hand, the pledge of our calling demands that we shall do everything in our power to prolong life, as long as there is hope. Let me say that I make greater efforts if the paralysis is left-sided, since hemiplegia is not so bad in the absence of aphasia.

Prognosis

From the beginning of the physician's ministrations, the question of prognosis arises. The family wants to know what is the future outlook for the patient. And if the stroke has been a mild one the patient wants to know what to look forward to. The prognosis depends upon a number of factors such as age, the condition of the arteries, the occurrence of previous attacks, the severity of the present attack, and so forth.

In general, the more violent and sudden the onset the more likelihood of hemorrhage and therefore death. On the other hand, hemiplegia occurring during sleep without obvious disturbance of consciousness on awaking is likely to be followed by rapid return of function. It is better to delay prognosis until some time has elapsed so that the course of the trouble can be plotted. And always the possibility of recrudescence or of another and more severe stroke should be kept in mind. Most patients and their families are less concerned with future strokes, however, than with the possibilities of restitution from the present one. Here a few simple rules obtain. The more sudden and severe the stroke and the more prolonged the unconsciousness, the larger the area of infarction or hemorrhage, hence the greater probability of prolonged or permanent disability. A stroke affecting the right side in a right-handed patient usually leaves some aphasia and hence impairs his abilities. Paralysis with little or no difficulty in the recognition of objects by feeling (stereognosis preserved) is a sign of good omen, while a paralysis principally sensory is apt to leave a more useless limb. The leg almost always returns to function better than the arm, so that in many cases the physician can be dogmatic and assert that the patient will be able to walk, but will never have a useful hand. If pain appears in the paralyzed limbs, the pain will persist and grow. Finally, if hemianopsia can be demonstrated along with paralysis, the defects remaining are apt to be severe.

Sometimes the symptoms are those of a stroke, but the paralysis does not appear. This usually means a small infarction, and a patient may have a dozen of these and still be up and around, although with gradual failure in mental processes and with poor control over emotional expression and over his sphincters and swallowing. This is the so-called pseudobulbar palsy, so named because of the indistinct speech and the attacks of spasmodic crying. These patients often fall gradually into a relatively complete dementia, and the postmortem examination of the brain may reveal literally hundreds of minute infarcts scattered through the brain.

Prognosis depends not only upon the location and extent of the lesion, but also upon the patient himself. The younger the patient, and the more smoothly he has adjusted in the past, the more likely there is to be a good result. A patient who gives up too easily, or one who in the past has reacted explosively to various situations, who fights everything including his disease and his attendants—both of these have a rather poor prognosis.

There are a number of critical periods for a patient who suffers a stroke. The first occurs when the disease process is advancing and the end of it is not yet in sight. The second occurs when the patient realizes the nature and extent of his disability and reacts to this knowledge with his whole personality. The third occurs in certain instances when the thrombosis or hemorrhage may recur. One does not breathe easily in most cases until two weeks have elapsed, and even after that there may be extension of the lesion with increased disability. Since so many patients become ambitious soon after the effects of a stroke begin to wear off, the handling of the patient during this waiting period is again a matter for good judgment on the part of the physician. A period of rest in bed, roughly one week for each hour of unconsciousness, is a ready rule of thumb. During this period not only the physical needs of the patient should be looked after, but also his adjustment to his situation discussed with him in as tactful and helpful a manner as possible. Some patients are upon the point of retirement anyhow, and the stroke comes to them as a welcome relief from labor; others are greatly upset by the occurrence, and think of nothing else than getting back on the job; some are crushed by the hopelessness of ever making a comeback; and some take the occurrence in a philosophic manner and from the start manifest a spirit of coöperation. Physicians who have cerebral accidents are especially hard to influence, since they know more than is good for them.

LATER MANAGEMENT

The later stages in the management of a patient who has had a stroke are adjusted to the physical and mental capacity of the patient. Especially important is the necessity of keeping the paralyzed limbs in good condition, so that as voluntary control returns, the patient may not have the additional handicap of contracture and ankylosis and subluxation of the humerus to contend with. Massage and passive motion of the paralyzed limbs should be commenced within a day of the stroke and should be continued. It is quite notable that patients with left hemiplegia show better restitution than those with right hemiplegia. The reason for this is probably that left hemiplegics use their right hands to keep the left ones constantly in motion and hence are able to prevent contracture. Also the degree of intellectual integrity in left hemiplegics favors the continuation of efforts to regain control over the paralyzed limbs. Exercises, both active and passive, should be enjoined upon the hemiplegic, since function is often slow in returning. Sometimes a sling is useful to prevent the dropping down of the arm from the shoulder, and to prevent subluxation at the shoulder joint with consequent pain and limitation of motion. Warmth, baths and diathermy are of some use in favoring the maintenance of a flexible limb.

A paralyzed patient can often accomplish much by slow and steady movement, whereas rapid action is likely to result in increased rigidity. Finer movements are always more difficult than gross ones, hence the fine ones must be trained over again. I like the practice of picking up peas or marbles with the paralyzed hand and transferring them from one bowl to another. As the process is repeated over and over again, both skill and flexibility are regained. This exercise is irksome to some patients, but in the general readjustment to life it must be impressed upon them as important. Playing cards, especially solitaire, or building with blocks, or solving picture puzzles serves to while away the time spent in recovery.

The retraining of the aphasic is sometimes a task for a specialist in speech training. This is particularly the case when the defects are verbal in type, and where the patient is too easily discouraged by his lack of success in making the words fit the objects. It does not pay to push these patients too hard, since they are only too well aware of their handicaps and tend to remain silent rather than make the attempt and feel foolish. Above all, it is important to the patient to regain some of his pleasure in life, and some of his anticipation of things to come. The radio is a great boon to some, especially where music is concerned, but the aphasic is readily tired by trying to understand the usual rapid-fire speech that comes over the air.

Most patients who have had a stroke go through a period of great discouragement during the early phases of their disability, and sometimes the physician's best efforts are directed toward getting the patient to adjust to his changed situation in life, especially if permanent disability has to be faced. Many patients, however, accept their disability philosophically and are pleased with any small improvement that they show. For them the threat of repetition of the stroke is less momentous than the next trip to the dinner table. It is well that this is so, and some of the reason for it lies in the fact that they have to some extent lost that zeal for accomplishment that characterized their more healthy period. The physician is then under obligation to lead, encourage, and drive the patient to greater efforts to overcome the disability.

Instances are few where a patient who has had a severe stroke is returned to full working capacity, yet there are just enough of them, outstanding leaders, to lend hope to any hemiplegic who has suffered a stroke. Pasteur, for instance, made most of his important discoveries after he had suffered an attack of paralysis that left his arm permanently useless. And Forel wrote a monograph detailing the stages by which he recovered from an attack associated with aphasia. Such examples of success in spite of similar handicaps may stimulate the patient to greater efforts, and his family to greater helpfulness.

SUMMARY

A stroke is a major catastrophe, and immediate response on the part of the physician is imperative. Most patients need peace and quiet rather than active therapy, but the earlier treatment is applied, the greater the likelihood of sparing the injured brain cells. Finally, with the critical period past, the problem of reeducation and reëstablishment of the patient in the workaday world becomes the business of the physician, with helpers to assist him. The physician who can gain the coöperation of the patient with helpful encouragement and detailed directions will most nearly restore the patient to modified, yet useful activity.

UNUSUAL REACTION TO A BEE STING

REPORT OF A CASE

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The following report describes an unusual, severe reaction from a bee sting, occurring for the second time in the history of the patient.

REPORT OF CASE

The patient, a graduate nurse of 54, while riding in an automobile, was stung by a bee.* Immediately she complained of nausea, started to get out of the car, but collapsed on the running board and vomited twice. She took out her teeth. In a few minutes she became unconscious and deeply cyanosed. She was brought to the Sanitarium and when examined about an hour after the accident was stuporous, cold and cyanosed and talked at intervals in a disconnected manner.

Physical examination showed a well developed and well nourished woman who occasionally placed her hand over her heart as though in pain. The temperature was 96.8°F. rectally. The pulse rate was 80 and the pulse very weak; the respiratory rate was 20. The pupils were equal and reacted through small excursion to light. The gag reflex was absent. The chest was clear; the heart was not enlarged, but the heart sounds were markedly diminished, and there were no adventitious sounds. The blood pressure was 64/40. There was questionable slight tenderness over the right hypochondrium. The tendon reflexes were equal and active throughout, and there was no paralysis or spasticity of the extremities. There was slight edema of the left hand around the site from which the sting had been removed by the patient's companion. Toward the end of the examination the patient emerged slightly from her stupor and said, "Leave me alone." The white blood cell count was 9,800.

Three hours later when seen by the internist, the patient looked better but was still drowsy. She had several bouts of cough during the examination (to which she gave some coöperation). She talked a little in a rational manner. The cyanosis had diminished. There were well-marked red streaks running up the left forearm, and a slightly raised reddened area about the size of a dime was present on the dorsum of the first joint of the left index finger (site of sting). The pupils were contracted ($\frac{1}{4}$ grain of morphine had been given). The heart sounds were somewhat louder than before; there was a definite protodiastolic gallop over the apical area. The blood pressure was 92/70. Bilateral deafness was present. The white blood cell count was 12,800.

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* This was probably a specimen of Italian bee (Apis mellifica).

The sequence of events as described, the presence of lymphangitis and the evidences of peripheral vasomotor collapse, in the absence of clear signs of central nervous system or cardiac involvement, seemed to indicate that this was a reaction to bee venom. It was decided to watch the patient hour by hour for further signs.

The next morning the patient was in good contact but complained of severe fatigue. There was no precordial pain. She said, "I am sorry I did not have time to tell you what was wrong. I could have saved you a lot of trouble. I had an attack like this 15 years ago." She remembered the accident of the preceding day clearly, and said that at the time she felt the pain from the sting in her finger, she also experienced a similar pain over the precordium and a peculiar sensation around the lips, "as though my face and lips were swollen." She recalled identical sensations on the occasion of the previous bee sting 15 years earlier, and said that she had then become unconscious and had remained weak and drowsy for several hours. She had not been stung by a bee during the 15 years' interval but she stated, "Whenever I get stung by a mosquito, I swell up like a bladder full of water."

On examination there was definite edema of the face, arms and hands. The red streaks on the arm had faded. The blood pressure was now 134/76. A urinalysis showed albumin 1 plus. The urine was loaded with hyaline, granular and cellular casts. Ephedrine $\frac{3}{8}$ grain 3 times a day was prescribed.

On the third day the patient showed still further improvement but was somewhat depressed and fearful, saying that she might lose her job because of her illness. The blood pressure was 134/70. The signs of lymphangitis had disappeared. The urine was negative on this and subsequent examinations.

On the fourth day the edema of the face, arms and hands had gone. The patient complained of marked fatigue and weakness during the next few days but was able to do some work, and about 10 days after the accident resumed her regular duties.

On September 28, 18 days after the accident, she was working full time, but complained of being unusually tired in the evenings.

An unusual, severe reaction to bee venom has been described. From the literature reviewed it would seem that such a reaction is quite rare.

Binet and Burstein[1] have described a patient who was bitten 12 times in the leg by bees and complained of burning around the neck, eyes and cheeks, followed by urticaria over the body and loss of consciousness for some minutes. Recovery followed. Binet states that multiple stings, intravenous injection of venom by a sting, and the sensibility of the subject are factors which may produce severe consequences, even to the point of death.

Binet and Burstein report the results of experiments on dogs and guinea pigs following the intravenous injection of bee venom from which albumin had been removed. They noted a profound fall in blood pressure lasting over 2 hours. Continuing their experiments with rats and guinea pigs they found that edema of the lungs could be produced by large intravenous injections of the venom and marked bronchial spasm with smaller doses. This latter reaction was readily relieved by adrenalin or atropine. Injection of a series of minute doses of bee venom abolishes this bronchoconstrictor effect (a sort of rapid immunity). They prepared atoxic preparations of bee venom by combining it with sodium thiolactate.

Osborn[2] states that the stings of certain species of digger wasps, Sphecius speciosus, which are found in the Central and Southern states, may produce severe reactions and may even endanger life. Osborn also states that stings from Apis mellifica may produce severe inflammation, which can extend from a sting on the hand along the length of the arm, and may even cause closing of the eyes.

Doak[3] reported that beekeepers in Indiana develop a natural immunity to stings. In caring for the Italian bee they suffer pain and inflammation for a while, but after they have been engaged in the work for a few months they can leave themselves entirely unprotected without suffering pain or inflammation.

The reaction described in the above case report was probably activated by the formic acid in the venom, since an idiosyncratic reaction has also been produced by mosquito bites, which appear to contain only formic acid. The nature of the alkali present in bee venom seems little understood.

(*Continued on page 120*)

RAT-BITE FEVER IN WASHINGTON, D. C.

REPORT OF THE FIRST PROVED CASE

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The occurrence of rat-bite fever in the United States has been recognized with increasing frequency during the past two decades. The diagnosis of the majority of these cases has been based on clinical findings alone.[1, 2, 3, 4] There are not more than 20 cases, including the present one, in which the causative organism of the disease, Spirochaeta morsus muris,* has been demonstrated by animal inoculation tests.[1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]

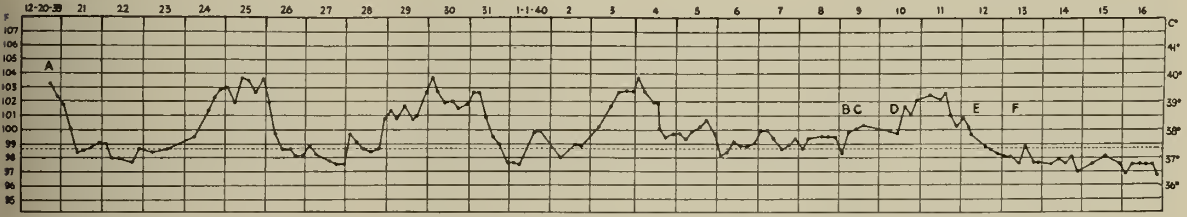

Fig. 1. TEMPERATURE CHART A = ON ADMISSION; B = TIME WHEN FIRST SAMPLE OF BLOOD WAS OBTAINED FOR ANIMAL INOCULATION TEST (POSITIVE FOR Sp. m m); C = ADMINISTRATION OF SULFANILAMIDE; D = SECOND BLOOD SAMPLE WAS REMOVED FOR ANIMAL INOCULATION TEST (POSITIVE); E = SULFANILAMIDE LEVEL DETERMINATION; AND F = TEMPERATURE FOLLOWING THIS WAS NORMAL

Report of Case

J. D., colored, female, aged 7 months, was admitted to the Gallinger Municipal Hospital on December 20, 1939 (case no. B6569). One week before admission the child was bitten by a rat on the thumb and middle finger of the right hand. The finger bled profusely. The thumb did not bleed. The bites were washed with warm water and hydrogen peroxide by her mother, and the finger healed promptly. Warm applications were continued, but the lesion on the thumb failed to heal, and the middle of the thumb became swollen. On the day of admission (7 days after being bitten) the child became irritable and drowsy and developed a fever (fig. 1).

The temperature on admission was 103.4°F. (rectal). There was a fusiform swelling of the proximal phalanx of the right thumb. This was about 2 cm. in diameter and was sore, reddened and indurated. Small lymph-glands were palpable in the right axilla but not in the epitrochlear region.

Blood studies the morning after admission, when the temperature was normal, showed hemoglobin, 70 per cent; erythrocyte count, 4,100,000; leukocyte count, 6,500, with a differential count of polymorphonuclear leukocytes 60 per cent, lymphocytes 34 per cent, monocytes 3 per cent, and basophiles 3 per cent. Kahn tests were negative on admission and on January 9. The urine was essentially normal throughout the course, and the tuberculin test (P.P.D. no. 2) was negative.

The temperature dropped from 103.4°F. on admission to 98.8°F. the following morning. It remained normal for 3 days, then rose again to 104°F. for 2 days. There were recurrent bouts of fever through the first 3 weeks in the hospital. On January 4 the right epitrochlear gland became palpable, the axillary glands were enlarged to the size of large peas, and the patient developed a well defined skin rash. This appeared first on the chest and abdomen. The lesions were reddish-brown maculopapules that varied from 2 to 10 mm. in diameter. They were barely palpable. The smaller lesions faded completely on pressure; the larger ones did not fade but left a brownish discoloration of the skin. During the next 4 days the rash progressed. The lesions on the trunk became larger, being up to 2.4 cm. in diameter. As they became larger, they became circinate with an area of regression in the center. The lesions appeared on the face, the extremities and the perineum, and they became more numerous on the trunk. When the patient's temperature was normal, the rash had a paler tint. It did not disappear in the afebrile periods.

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* Some authorities have described Spirochaeta morsus muris under the name of Spirillum minus Carter, 1887.[16]

Immediately after removal of a blood sample taken for animal inoculation on January 9, 1940, the patient was started on sulfanilamide by mouth, receiving 5 grains immediately and 10 grains per day, in divided doses, thereafter. This was approximately 1.1 grains per pound in the first 24 hours and 0.75 grain per pound per day as a maintenance dose. The following day the temperature rose to 102°F. More blood was taken for animal inoculation. The free blood sulfanilamide level was 2.6 mg. per cent. Because the temperature remained elevated on January 11, the dose of sulfanilamide was increased to 22.5 grains per day or 1.7 grains per pound per day. The free blood sulfanilamide level on January 12 was 4.6 mg. per cent. The temperature returned to normal on that day and remained within normal limits throughout the hospital stay. The skin rash persisted for 3 days after the fever, then faded rapidly. The swelling on the thumb gradually subsided, and the child very soon became alert and playful.

The patient was discharged on January 25 in good health. She was readmitted in February, 1940 with acute mastoiditis due to the hemolytic streptococcus. She recovered from this illness and was in good health when last seen on February 1, 1941.

The first blood sample was removed 27 days following the rat bite, when the child had a temperature and a rash over her body (on the face, trunk and extremities), about 10 c.c. being withdrawn from the femoral vein and defibrinated with glass beads. One hour was devoted to direct microscopic search of the patient's blood by darkfield examination for the spirochetes of rat-bite fever. The results were negative. The blood sample was then inoculated intraperitoneally into 4 white mice (Mus musculus), into 3 albino deer mice (Peromyscus maniculatus gambelii), and into 3 guinea pigs. Each mouse was given intraperitoneally about 0.25 c.c. of defibrinated blood and each guinea pig 2 c.c. of blood. An hour before inoculation, peripheral blood of all these animals was examined by darkfield illumination to determine whether they were infected naturally with spirochetes, and negative results were obtained (table 1).

Following inoculation, the blood samples of these animals were examined frequently under cover-glass preparation by darkfield illumination. No spirochetes of rat-bite fever were seen until the eighth, eleventh and seventeenth days, when a few Spirochaeta morsus muris moving with characteristic, exceedingly rapid back and forth movements were seen in the blood of all mice. One of the Mus musculus when examined after 423 days (about 14 months) was found still infected with the Spirochaeta morsus muris. They stained readily and

TABLE 1

Demonstration of Spirochaeta morsus muris in the blood of susceptible test animals

ANIMAL NO.	ANIMAL INOCULATIONS				MICROSCOPIC EXAMINATION OF PERIPHERAL BLOOD FOR SPIROCHAETA MORSUS MURIS																			
	Date of Inoc.	Material Inoc.	Sample Removed from Patient	Species of Animal	Before Inoc.	Number of Days Following Inoculation																		
						7	8	9	10	11	12	13	14	15	16	17	18	27	28	39	49	70	71	72
1	1–9–40	Defibrinated blood	Before treatment	Deer mouse P.m.g.	0	0	0	0	0	0						+								+
2	"	"	"	"	0	0	0	0	0	0						+								+
3	"	"	"	"	0	0	0	0	0	+						+								+
4	"	"	"	House mouse M.m.	0	0	0	0	0	+					+							+	+	Killed
5	"	"	"	"	0	0	+								+							+		Alive*
6	"	"	"	"	0	0	0	0	0		+			+		discarded								
7	"	"	"	"	0	0	0	0	0		+			+		discarded								
8	"	"	"	Guinea pig	0				0			0	0	0		0				0	Died			
9	"	"	"	"	0				0			0	0	0		0				0			0	Died
10	"	"	"	"	0				0			0	0	0		0				0			0	Alive
11	1–11–40	"	One day after sulfanilamide therapy	House mouse	0						0			0									0	"
12	"	"	"	Deer mouse P.m.g.	0					+			0	0									0	"
13	"	"	"	"	0					0			0	0									0	"

*Animal no. 5 (Mus musculus) examined 423 days after its inoculation was found still infected with Spirochaeta morsus muris.

were indistinguishable from other strains of Spirochaeta morsus muris. One of the guinea pigs, no. 8, died 49 days later; the second pig, no. 9, died 71 days following inoculation; the third guinea pig, no. 10, was still alive after 75 days. At no time was Spirochaeta morsus muris seen in the blood of these guinea pigs by microscopic search with darkfield illumination.

The second blood sample, removed from the patient 28 days after the rat bite and a day after beginning sulfanilamide administration by mouth, was defibrinated and injected into 5 normal mice. Guinea pig no. 10 was inoculated with 2 c.c. of this blood sample. Eleven days after the initial inoculation this pig had a rectal temperature of 41.1°C. Of this group of animals, the Spirochaeta morsus muris was seen only in the blood of 1 albino deer mouse (Peromyscus maniculatus gambelii), 11 days following inoculation. The third and fourth blood specimens removed about 4 hours apart on the sixty-first day following the rat bite were negative for Spirochaeta morsus muris.

This strain of Spirochaeta morsus muris isolated in vivo after a passage into a white mouse (Mus musculus) and into a white rat (Rattus norvegicus) was transmitted to a limited number of the following species of rodents in order to learn their susceptibility or resistance to the Spirochaeta morsus muris: 3 desert deer mice (Peromyscus eremicus eremicus), 2 forest deer mice (P. leucopus noveboracensis), 2 albino deer mice (P. maniculatus gambelii), 1 rice rat (Oryzomys palustris), and 1 cotton rat (Sigmodon hispidus cienegae). All the above animals contracted the infection, which ran a chronic and nonfatal course. At various intervals during the 4 months of observation spirochetes were demonstrated microscopically in the blood of all these animals.

DISCUSSION

The present study shows that Spirochaeta morsus muris can be isolated from the blood of a rat-bite fever patient. Absolute diagnosis of the disease depends upon demonstration of the causative organism from the patient's blood, lymph-glands or original wound by animal inoculation tests. The use of peripheral blood is simpler than the other procedures and gives reliable results, particularly when the samples are withdrawn during a febrile period, preferably as the temperature is rising.

Attempts to demonstrate the spirochetes in the patient's blood by direct microscopic examination are time-consuming and not practical from a diagnostic point of view.

The Spirochaeta morsus muris has not been grown successfully in vitro, and there is no agglutination test available for rat-bite fever at the present time.

Mice and guinea pigs are probably the most suitable laboratory test animals for the diagnosis of rat-bite fever. The Spirochaeta morsus muris can be demonstrated in the blood of the mouse about 10 days following its inoculation with infected material* and thereafter throughout the animal's life. The guinea pig, on the other hand, may succumb to some of the strains after about 1 to 4 months. The demonstration of Spirochaeta morsus muris in the blood of the guinea pigs is difficult unless the strain is very virulent, in which case the spirochetes may be found in the circulating blood of the guinea pigs in rather large numbers. The temperature curves in the experimentally infected guinea pigs may have some diagnostic significance.

Before inoculation of both mice and guinea pigs with blood samples from a suspected rat-bite fever patient, it is necessary to examine the peripheral blood of the animals in order to eliminate the possibility of natural infection of the test animals with the spirochetes of rat-bite fever.[17, 18, 19, 20] If spirochetes of rat-bite fever are seen in the peripheral blood of the mouse between the tenth and fourteenth days following inoculation with suspected material, their presence is diagnostic of rat-bite fever.

It is noteworthy that 5 species of rodents inoculated with Spirochaeta morsus muris all contracted an infection (similar to that of wild rats, Rattus norvegicus) and all became chronic carriers of the spirochetes of rat-bite fever. This suggests that the species of rodents experimented with, when infected, may be able to transmit the rat-bite fever to man.

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* When the inoculum from an infected mouse or rat contains from 1 to over 5 Spirochaeta morsus muris per microscopic field (objective 90×, ocular 10×), the incubation period in subinoculated mice or rats may be considerably shortened, and at times it is possible to demonstrate the organism even during the first week.

CLINICO-PATHOLOGIC CONFERENCE

GEORGE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

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AND

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CASE NO. 49280

The following is one of a series of weekly clinico-pathologic conferences conducted at the George Washington University School of Medicine as part of the regular curriculum. Abstracts of the cases to be presented are distributed to the members of the faculty and student body in advance of each conference. The final diagnosis is known only to the pathologist.

PRESENTATION OF CASE

A 17-year-old white female was admitted to the hospital on October 31 for treatment of epistaxis. She died on December 10. The present illness commenced 6 weeks before admission, with weakness and shortness of breath so marked that she had to sit or lie down most of the time. There was some "nervousness" at this time and occasional nosebleeds but no other symptoms. Two weeks before admission an epistaxis occurred lasting 1½ hours. The following week she experienced nausea and vomiting and began to have frequent twinges of non-radiating substernal pain, unrelated to exertion, which lasted about a minute. The nosebleeds recurred, necessitating packing, and were the symptom leading to hospitalization.

The patient had the usual childhood diseases, pneumonia at the age of 3 years and "stomach spells" until the age of 5. There was no history of rheumatism, frequent sore throats, or chorea. Apparently she had never been very well. The mother gave further information that the patient was "born with kidney trouble," did not urinate for 3 days after birth and had some hematuria at that time. Recently there had been slight nocturia (1 or 2 times) but no other urinary symptoms. There had been no edema. The menstrual history was negative except for amenorrhea for the last 2 months. The family history was negative.

Physical examination showed the patient to be very pale and weak. The temperature was 97.6°F., the pulse rate 100, the respiratory rate 22, and the blood pressure 140/100. The eyes, ears and mouth were essentially negative. The nose was not examined for fear of starting hemorrhage. There was questionable edema of the upper eyelids. The thyroid was slightly enlarged. There was marked pulsation of the vessels of the neck. The lungs presented no abnormal findings. The heart was enlarged to the left, the apical impulse being felt in the fifth interspace at the anterior axillary line. There was a questionable thrill at the apex. The precordium was heaving. The sounds were regular, and the first sound was of fair quality. A loud blowing murmur, described as systolic by one observer and as presystolic by another, was heard at the apex. This murmur was not transmitted. A soft systolic murmur was heard at the aortic area. The abdomen was negative. Neurologic examination was negative. No petechiae or eruptions were noted on the skin or mucous membranes.

Examination of the blood on the day of admission showed: hemoglobin less than 10 per cent (Dare); red blood cells 990,000; white blood cells 8,800, with segmented polymorphonuclears 76 per cent, band forms 5 per cent, lymphocytes 18 per cent, and eosinophiles 1 per cent; coagulation time 8 minutes; bleeding time 7 minutes; platelets 131,000. The stool examination was negative. The Wassermann and Kahn reactions were negative. The basal metabolic rate was plus 1 per cent. An electrocardiogram showed left axis deviation, sinus tachycardia and evidence of possible myocardial damage. Ten urinalyses performed during the course of the hospital stay all showed: specific gravity 1.006 to 1.011, a large amount of albumen, many leukocytes, occasional red blood cells, no casts. Two phenolsulfonphthalein tests showed no color in either specimen upon one occasion and a 5 per cent return in the second specimen upon the other. Blood chemistry determinations showed: nonprotein nitrogen 54 mg. per cent (November 1), 72 mg. per cent (November 17), 165 mg. per cent (December 6); creatinine 7 and 8.6 mg. per cent on successive examinations. Subsequent studies of the blood showed little change in spite of repeated small blood transfusions, liver extract and iron therapy. The reticulocyte response reached 10 per cent upon one occasion but was usually about 4 per cent. The hemoglobin remained between 10 and 20 per cent. Blood cultures were negative after 13 days incubation. Culture of the catheterized urine showed an almost pure growth of Streptococcus viridans. A retrograde pyelogram made on November 3 showed slight dilatation of the pelvis of the left kidney with clubbing of the calyces of both kidneys. A 7-foot X-ray film of the chest showed uniform enlargement of all chambers of the heart, its transverse diameters measuring 15 cm., compared to 25 cm. for the inside of the thoracic cage. Marked pulmonary congestion was also noted in the film.

The temperature was very irregular but never went above 101.4°F. and was generally about 99.0°F. The pulse rate was usually between 90 and 120; the respirations were 22 to 24 per minute. The blood pressure remained at approximately the original level. The patient appeared to improve temporarily following the blood transfusions but remained extremely weak and pale. No frank edema was noted, but the feet, legs and face seemed somewhat puffy. The heart examination remained relatively unchanged throughout. Several days before death râles were noted in the chest and there was some tenderness in the epigastrium, although no organs or masses could be felt. On the day of death the patient became cyanotic, dyspneic and faint, and the pulse was barely perceptible. She recovered from this attack, but a few hours later had a similar one and succumbed.

STUDENT DISCUSSION

DR. BLOEDORN: Today's case is now open for discussion.

STUDENT: This girl had apparently been quite ill for 6 weeks with nervousness and epistaxis. Previously she had not been well and not very strong. The physical examination was essentially negative with the exception of cardiac enlargement and murmurs. There were no petechiae or eruptions on the skin. There was some puffiness of the face and a very severe anemia. There was marked nitrogenous retention, and the urine showed fixation of the specific gravity, a large amount of pus, red blood cells, no casts. The nausea and vomiting of which the patient complained were probably uremic manifestations. My conclusion is that she had a congenital defect of the kidney with superimposed chronic pyelonephritis.

DR. BLOEDORN: Why do you say congenital defect of the kidney? What is there in this history to indicate that?

STUDENT: Her mother said that she had anuria for 3 days after birth and she was supposed to have had some kidney defect.

DR. BLOEDORN: What congenital defect of the kidney would produce anuria for 3 days and allow the patient to live for 17 years?

STUDENT: Polycystic kidneys might, or some constriction of the ureter or pelvis.

DR. BLOEDORN: Your conclusion is that she died a renal death as a result of pyelonephritis. Do you want to hazard any other conclusion or do you want to stand on that?

STUDENT: I think I'll stand on that.

ANOTHER STUDENT: I have more or less the same opinion, but I think you can't rule out chronic glomerulonephritis. There is a suggestion that it might be subacute, but it doesn't quite fit in with that.

DR. BLOEDORN: What evidence is there of chronic nephritis?

STUDENT: Well, she had marked anemia, debility, and nitrogen retention.

DR. BLOEDORN: Can you have a chronic nephritis producing anemia of less than a million cells?

STUDENT: I think so.

DR. BLOEDORN: What other condition might produce anemia of less than a million red cells?

STUDENT: Aplastic anemia might, or myelophthisic anemia due to malignancy metastasizing to the bone marrow. The red cell count also is sometimes very low in pernicious anemia and in leukemia.

DR. BLOEDORN: Yes, in pernicious anemia one sometimes gets a count as low as that, and occasionally in leukemia there is a marked decrease in the red count. Of all these conditions you mentioned, which one would you favor in this particular instance? Was there enough bleeding for the anemia to be due to hemorrhage?

STUDENT: I think that was a contributory factor, but I do not think that it was the primary one.

Dr. Bloedorn: No, there doesn't seem to have been enough bleeding to keep the red cells down that low. Why do patients with chronic nephritis develop anemia? What is the mechanism?

Student: Well, they presumably have retention of toxic substances that destroy red blood cells, for one thing, or it may result from a lack of regeneration, or both.

Dr. Bloedorn: As a matter of fact, one can often measure the severity of a nephritis by the degree of anemia, can't he? As the nephritis becomes more severe, the patient often develops an increasing anemia.

Student: I think the patient in today's case died a renal death by evidence of the blood chemistry, urinary and physical findings. My first impression from her past history was that she had a congenital kidney defect, possibly a polycystic kidney. It fits in with the history.

Dr. Bloedorn: This patient had retrograde pyelograms, cultures of the urine, and blood chemistries. Could one diagnose polycystic kidneys from all those data?

Student: I should think so, certainly from the retrograde pyelogram.

Dr. Bloedorn: The retrograde pyelogram showed slight dilatation of the pelvis of the left kidney with clubbing of the calyces of both kidneys. Are these sufficient data to diagnose polycystic kidneys?

Student: They say there is a characteristic X-ray appearance.

Dr. Bloedorn: What about the heart in this case? It was quite enlarged. There were murmurs at almost all the valve areas, described as systolic and sometimes as presystolic.

Student: My idea of the mechanism of that is that she had had hypertension, possibly even higher than she had at the time she was in the hospital.

Dr. Bloedorn: That is quite possible. What about bacterial endocarditis in this case?

Student: I don't think there are enough findings to suggest that. There is no evidence of embolic phenomena and the heart findings were too constant. Also the blood cultures were negative, though, of course, that doesn't entirely rule it out.

Another Student: The blood count is also against bacterial endocarditis. We usually get some leukocytosis and some shift to the left. This count was not the count of an acute infection. When I first read the abstract, it seemed to me a typical picture of chronic glomerulonephritis; the nosebleeds, the nausea and vomiting, and the typical urinary picture could all be explained on that basis. Then I thought of polycystic kidneys, but the symptoms of that usually appear at a later age and there is usually enlargement of both kidneys.

Dr. Bloedorn: There is nothing in the X-ray plate which decides the size of the kidneys, whether large or small. The pelvis was a little more dilated on one side than on the other. Your first impression, you say, was chronic glomerulonephritis. What was your last impression?

Student: I thought of some congenital anomaly of the kidneys which might explain what the mother said about the anuria.

Dr. Bloedorn: Yes, sometimes it is a good idea to pay attention to what the mother says, isn't it?

Student (continuing): Yes, but if she did have a congenital defect, the picture is still one of chronic nephritis.

Dr. Bloedorn: What about a tumor? Might a tumor of the kidney produce this picture and this amount of nitrogen retention?

Student: Well, it is possible that it could if it were bilateral.

Dr. Bloedorn: If it were bilateral, exactly. A kidney tumor involving one kidney would not do this. You could even remove one kidney and not produce this picture. The lesion, then, must have been bilateral, if it were a kidney lesion at all.

Student: There is one point I would like to bring out. Griffith and Mitchell state that the urine in the newborn may not appear until the third day and that sometimes a faintly reddish color will be seen due to the decomposition of urates. I am not saying that this rules out a congenital abnormality, but it does bring it into question.

DR. BLOEDORN: That is a good point to raise, that the newborn sometimes doesn't void promptly, and that in itself would not justify a diagnosis of congenital kidney disease. How do you feel about this case?

STUDENT: I think that a chronic pyelonephritis due to Streptococcus viridans infection might be the cause of the whole thing.

DR. BLOEDORN: There has been very little comment up to now about this pure culture of Streptococcus viridans that was obtained from the catheterized specimen of urine. How much importance do you attach to that?

STUDENT: Streptococcus viridans doesn't produce a very acute infection. It is found in long-standing chronic infections. I think it is conceivable she could have gotten this infection very early in life, and it was sufficiently severe to make her appear more or less "under the weather" all of the time. Finally it impaired the kidney to such an extent that she couldn't carry on any more. This led to the increased blood pressure and anemia.

DR. BLOEDORN: Do you think the infection was a secondary invader, or the primary cause of her renal failure?

STUDENT: I think it was the primary cause.

DR. BLOEDORN: What about heart failure? Might you get this much rise in the creatinine or the nonprotein nitrogen with congestive heart failure?

STUDENT: I don't know.

DR. BLOEDORN: What does the class think? (Answers of "No" from the class.) No, I don't believe we can explain this marked damming back of nitrogenous products on the basis of heart failure at all.

ANOTHER STUDENT: I was wondering whether most of these symptoms might not be explained on the basis of malignant hypertension. She was in the proper age group for it, and, in the second place, although this doesn't rule out chronic glomerulonephritis, she doesn't give any history which is particularly indicative of preceding acute or subacute glomerulonephritis. She had a blood pressure which wasn't especially high, but after all she had been resting for a couple of weeks before admission, and that is very apt to bring the blood pressure down.

DR. BLOEDORN: That is a good point to raise. Can you get this degree of anemia, do you think, with malignant hypertension?

STUDENT: You can get as much anemia with malignant hypertension as you can with chronic glomerulonephritis.

DR. BLOEDORN: Are there further comments?

STUDENT: I don't think we can rule out subacute bacterial endocarditis so easily. I think if she had a viridans infection over a period of years she could very easily have destruction of the kidney. If she had had septic infarcts over a period of time, from emboli breaking off the heart valve, they could destroy the kidney parenchyma, and she would soon have little kidney structure left. The renal failure would be in proportion to the amount of kidney parenchyma destroyed.

ANOTHER STUDENT: Occasionally a case of hypochromic microcytic anemia due to insufficient bone marrow occurs. The statement is made here that she was not very well most of her life, although she had no specific illness. She could have gotten a cystitis due to general lowered resistance and infection up into the ureters and kidneys with subsequent pyelonephritis. Further, the anemia could give her nosebleeds, and the heart picture could be that of chronic anemia with enlargement of all the chambers. Then the picture would be that of renal failure due to an acute pyelonephritis.

DR. BLOEDORN: Might this patient have had rheumatic heart disease? She was reported to have had murmurs, occasionally presystolic. She had a large heart. The transverse diameter was greatly increased. Might she not have had a mitral stenosis?

Student: I believe the American Heart Association says that, unless mitral stenosis is definite, one must have a history of rheumatic endocarditis and an X-ray film showing enlargement of the left auricle in order to diagnose rheumatic heart disease.

Dr. Bloedorn: Yes, but the American Heart Association doesn't require a history of rheumatic fever, does it, to diagnose mitral disease? I haven't seen that statement. About half the mitral stenosis cases that we get give no history of rheumatic fever at all. If you have such a history, it lends color to the diagnosis.

Student: I don't see how one could say that there was an endocarditis. How could it be possible mechanically to have an infarct solely in the kidney? If you had an endocarditis, you should have an infarct in the spleen also with sharp pain.

Dr. Bloedorn: That is a good point to raise. This patient had no demonstrable evidence of embolic foci. Why should the emboli be confined to the kidney entirely? What about that?

Student: We don't know that she didn't have any to the spleen, and it is possible to have an endocarditis without any petechiae in the skin at all.

Dr. Bloedorn: Yes, the absence of petechiae doesn't rule out bacterial endocarditis. Even with repeatedly negative blood cultures we can't rule out bacterial endocarditis, can we? In most cases we do get positive blood cultures if we are persistent. What diagnosis do you favor?

Student: I favor bacterial endocarditis with toxic effects upon the bone marrow and kidney.

Dr. Bloedorn: Our time has about expired and our pathologist has the answer, I hope. Is there any diagnosis that has not been suggested yet that someone would like to give now?

Student: I think tuberculosis of the kidney should be considered as a possible background for the final chronic nephritis, and amyloidosis might be added to this as a cause of the renal death, since you can't put your finger definitely on any other.

Dr. Bloedorn: The first diagnosis suggested was renal failure based on some congenital lesion of the kidney. How many would favor such a diagnosis? (Majority) How many favor bacterial endocarditis? (About 8) How many favor chronic glomerulonephritis? (About 40)

Certainly, this was a bilateral kidney lesion, judging from the degree of nitrogenous retention. One couldn't get that from a tumor of one kidney or from destruction of one kidney. To get this degree of enlargement of the heart and hypertension, it must have been of long standing. The general opinion is that the heart findings were secondary to renal failure based on insufficient renal tissue to carry this patient along further than 17 years of life.

Pathologic Discussion

Dr. Choisser: This case was seen by many consultants while in the hospital, and all the diagnoses that have been raised and discussed here were considered. No two, however, seemed to agree exactly as to the actual diagnosis because the symptoms didn't seem to fit in with any specific entity.

At autopsy, we found a condition which was quite a surprise to all of those who attended the section. The gross appearance of this patient was that of a very anemic, poorly developed girl, 17 years of age, who showed no edema except in the region of the feet, where it was just slightly pitting. There was some icteric tinge to the sclera, but no icterus was noted on any other portion of the body. The bony framework was undersized but there were no irregularities, such as you would see, possibly, in a rachitic condition. There was very little subcutaneous fat, and the muscles were poorly developed. Upon exposing the viscera, they all appeared to be in normal relationship. Both thoracic cavities contained a moderate amount of fluid, about 200 c.c. on the right side and about

100 c.c. on the left. The lungs were voluminous, pinkish gray, and showed a small amount of anthracosis. There was a moderate amount of hypostatic congestion in the bases of both lungs but no evidence of infarctions or pneumonic consolidation. No tuberculosis was found. The heart was greatly enlarged, weighing 400 grams. The enlargement was more or less uniform. The pericardial cavity contained about 50 c.c. of clear straw-colored fluid, but there were no adhesions and no evidence of infarctions in the cardiac muscle. The right side was markedly dilated and there was a large chicken-fat clot in the right auricle, also a cruor clot in the right ventricle. The tricuspid valve was markedly dilated and easily admitted the tips of four fingers. That is rather large for a girl of this age. The tricuspid valve, however, showed no evidence of vegetations or malformations. The pulmonary valves appeared normal. The left side of the heart was also dilated and showed a rather marked hypertrophy. The mitral valve was smooth and showed no evidence of fenestrations or of rheumatic involvement. The left ventricle was dilated and was also hypertrophied, measuring 2.5 cm. in diameter. Other than the hypertrophy, nothing of pathologic significance was noted. The aortic valve and the coronary orifices were normal. There was a moderate amount of atheroma in the region of the coronaries but this did not extend up into the aorta, and there was no evidence of luetic involvement.

The entire gastrointestinal tract was negative. The liver was moderately enlarged, extending down about two fingers' breadth below the costal margin. The consistency was normal; the organ was dark reddish-brown, and on section it showed no abscesses, no cysts or cirrhosis, and very little evidence of passive congestion. The gallbladder was normal and contained no calculi. The pancreas was pale and quite normal in size and consistency. The spleen was about normal in size; it showed no evidence of infarctions, fibrosis or tuberculous involvement. All of the retroperitoneal lymph-nodes were moderately hyperplastic, but there was no evidence of tuberculosis.

The kidneys were quite small. Here is a specimen of both kidneys. The top one is the left and the lower is the right. They were surrounded by a moderate amount of fat and an enormous amount of fibrous connective tissue. The left kidney, when it was lifted from its bed, measured about 12 cm. in its longest diameter and about 3 cm. in thickness. It was a soft sacculated mass. The ureter on the left side was dilated to about three times its normal diameter, and upon tracing it down to the bladder it was noted that there was a minor constriction at the ureterovesical orifice. Upon opening the bladder, a small hemorrhagic spot was found, which apparently was the result of the previous catheterization. The right kidney was a little larger than the left and showed practically the same gross appearance. It was reduced to merely a large dilated cyst-like, very soft mass. The capsules of these kidneys were thick and stripped with difficulty, producing decortication in both instances. The renal cortical tissue was reduced to practically a thin line. It is only about 2 or 3 mm. in diameter, and the medullary substance in both kidneys is practically replaced by the large dilated pelves.

The internal organs of generation were of the infantile type. There had been practically no development. The ovaries were very small and fibrotic, and the uterus was elongated and underdeveloped.

Further study revealed this to be a case of renal infantilism or renal dwarfism. It is a congenital affair associated not only with a failure of development of the kidney but also a failure of development of the bones. It was noted that the bones were quite friable and contained practically no medullary substance. The condition is referred to clinically as renal rickets, and the bone changes are presumably due to a retention of phosphorus.

(*Continued on page 120*)

PRESIDENT'S NIGHT

Medical Society Building
1718 M Street, N.W.

APRIL 30, 1941
8:15 P.M.

GUESTS OF HONOR

The President
The President-elect
Past Presidents and
Distinguished Visitors

HIGHLIGHTS OF PROGRAM

President's Address
Award for Meritorious Service to
the Medical Society of the District of Columbia
Excellent Entertainment by Members of
the Medical Society and the
Woman's Auxiliary

Buffet Supper

AN EVENT WHICH WILL LONG BE REMEMBERED

PHYSICIANS AND THEIR WIVES INVITED

EDITORIALS

SELECTIVE SERVICE EXAMINATIONS

Experience of the past few months has demonstrated the soundness of the plan adopted in the District of Columbia for examining selectees. Selective Service officials have on several occasions expressed their satisfaction with its operation. They have also suggested that the plan might well be used as a model for other urban centers. Naturally, these favorable comments have been a source of satisfaction to the Medical Society's Committee on Medical Resources which has been responsible for the present arrangement whereby physicians examine registrants in hospitals nearest to their districts.

Much credit for efficiency of the groups of practitioners working in the various hospitals is due the chief examining physicians, upon whom has been placed the responsibility of organization. These physicians have developed procedures adapted to the institutions in which they are working. Without exception they have shown ingenuity and executive ability. So far as was practical, each practitioner under their direction has been assigned a definite task. The assistance of specialists was obtained by them to make the necessary ophthalmologic, otolaryngologic and dental examinations. For a time these physicians served without official status. Recently they were appointed as additional members of Medical Advisory Boards serving with examining physicians in the various hospitals. Medical Advisory Boards as such do not function in the hospitals; examinations are usually made in the offices of the members. Needless to say, these Boards have given a good account of themselves.

Without the assistance of hospitals and medical schools the plan would not have been successful. Hospitals have not only made available their facilities but have provided nurses and other personnel. Clerical work has been done by medical students obtained through the good offices of the deans of George Washington, Georgetown and Howard University medical schools.

Working closely with Colonel A. Clagett Gray, State Medical Officer for Selective Service in the District of Columbia, have been the Committees on Medical Resources of the Medical Society of the District of Columbia and the Medico-Chirurgical Society, Inc. of Washington, and the Military Affairs Committee of the District of Columbia Dental Society, who have sought and obtained volunteers among physicians to serve on the various boards.

Although success has attended this undertaking, there are defects in the present system which should be remedied. To begin with, as greater numbers of selectees are called up, the burden has become correspondingly heavy. Whereas in the beginning examining physicians were only required to devote a night a week or every other week to examinations, they must now set aside two and three evenings a week for this task, and it appears that this situation is not temporary but will continue for some time. Physicians find it difficult to carry on their practices under such conditions. Particularly is this true of the general practitioners, most of whom have evening office hours.

There also appears to be a need for standardizing examinations in all hospitals, in other words, that a systematic procedure be developed for the examination of selectees by groups of physicians. This would contribute to efficiency and precision.

The solution would seem to be participation by a greater number of physicians and better organization. Two or three groups of physicians, if necessary, could be assigned to each hospital to make examinations on alternate nights. Each unit might have its chief examining physician. This would lighten the burden considerably. If, in addition, procedures were standardized the work could be carried on with much less effort.

The present emergency demands that sacrifices be made. Recognizing this, physicians are gladly giving their services, and better planning will make their contribution more effective.

MEDICAL SCHOOL REQUIREMENTS QUESTIONED

Are the medical schools of this country emphasizing technical qualifications of students who seek admission to the exclusion of equally important considerations?

This question was raised recently by Dr. Irving S. Cutter, Dean of the Northwestern University Medical School, when he appeared before the Thirty-Sixth Annual Congress on Medical Education and Licensure. Dr. Cutter's address* should be read in its entirety, but his views on the attributes which medical students should possess are of special interest. He says:

"I would place character, then, first among those ancillary yet fundamental considerations for admission, and there are many ways to measure this vital endowment. Heredity may be studied with profit. By means of personal interviews, using interested alumni and other available sources including upper classmen from the same school or vicinity, the candidate's background can be envisioned with accuracy. Then too the lad's reactions toward his fellow students in prep school and college and his talents for leadership will afford many hints. Inquire closely into his motives for entering medicine. What are the actuating and directing forces? The suggestion that he submit a 500-word autobiography may be helpful.

"Next in importance is an intense humanity which must be ingrained—second nature. The unfeeling, indifferent expert possessed of every refinement of skill rates about 10 per cent of par as a counselor when some member of the family is ill. For most of us sickness is an emotional experience, and as a rule we are unable to dissociate real interest and effective performance. Not long ago on a visit to a hamlet of a few thousand population I was cheered immeasurably by remarks which I heard on every hand to the effect that 'Dr. Blank is the most valuable and outstanding citizen of our community.' This prompts the rather bold assertion that the health of every locality would be enhanced by the presence of a generous-hearted doctor. He may not know quite as much as his city colleagues, the specialists, but he is faithful in guarding the welfare of his patients; his attention to their ills is so unremitting that disaster comes but rarely. Furthermore, he is the first to call for help when the occasion arises. We cannot read without a thrill Ian Maclaren's story of old Dr. MacLure of Drumtochty, who brought the great London surgeon to save the life of Annie Mitchell. What a notable physician John Keats would have made had not tuberculosis cut him off on the threshold of life and had his urge for medicine held through the years. Deeply imbued with an enduring affection for his fellow man, the author of the Eve of St. Agnes and the Ode to a Nightingale would have rendered a priceless service. But, some one may say, 'Of what use is a nightingale anyway? It would never take a prize at a poultry show!' Therein lies the crux of the whole matter. We must seek and admit to our classes only those students who are capable of understanding and appreciating the doubts and fears that beset the sick.

"Next I would suggest that the applicant shall be possessed of certain cultural instincts. Only the necromancy of a chemical laboratory can transform a sow's ear into a silk purse. Our classrooms as yet are not adept at working miracles. However, the habit of reading good books plus an acquaintance with the world's literature, art and music does something to a man that makes him a better physician. Our demand for a broad intellectual outlook requires that our teachers shall live up to and exemplify the best traditions of scholarship. We lost much with the passing of the old-time lecturer whose discourse was a model of diction, glowing with imagery. He had the power to illumine an otherwise dry subject with interest and color.

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* Federation Bulletin, February 1941.

"In addition to good mental pabulum our neophyte must possess the ability to think logically. After all, diagnosis is little more than a practical exercise in logic. It is the lack of this accomplishment that leads to scatter-brained incompetence, so destructive to lay confidence. Some possess it; others do not. It is our business to select those who do. A brief undergraduate course in this subject would be of value.

"Personality more often than not reflects the man and in his smile and demeanor we read his thoughts. Charlatans may cultivate the form but not the substance. Too much satire has been directed toward 'a good bedside manner.' It was Du Maurier's cartoon in *Punch* of March 15, 1884, that first called forth this phrase. The legend read: 'What sort of a doctor is he?' The reply was, 'Well, I don't know much about his ability; but he's got a very good bedside manner.' The attributes of a gentleman reflect themselves in conduct and we all agree that there is no excuse for the occasional blunt, even brutal, approach to those who are in pain. Our candidate must be blessed with those traits of heart and mind which will lead his patients to the certain knowledge that he is personally concerned and that he will leave no stone unturned for their recovery.

"In selecting our quality quota we must envision the market. What is the objective of medical training? Is it for service in pure science, research and investigation? Is it for medical practice, general or special? Certainly the assumption is sound that it is for all of these, and perhaps more, including the broader aspects of civic affairs in which a large majority of our colleagues should participate. At most, a small percentage of all who enter as freshmen will devote themselves solely to investigation, to the exclusion of contact with patients. By far the larger number will engage in practice, alert to new discoveries. From the vast panorama of clinical material which comes within their purview there will emerge in the future, as in the past, useful and far-reaching observations. A goodly proportion will carry into the field the habits of the laboratory."

Students now beginning their medical training will serve a much more enlightened public than did the practitioners of the past. Medical organizations, official and volunteer health agencies are energetically endeavoring to inform the people in all matters pertaining to their health. In addition, there has been a growing interest in medicine which is stripping it of its mystery. As a result, the average person will be much better able to judge the qualities which make a good physician. Dr. Cutter's observations are therefore timely and should receive the thoughtful attention they deserve.

PERTINENT PARAGRAPHS

February Meetings

Activities during the past month have of necessity been curtailed because of the trial now in progress in the District Court. However, a number of the Society's boards and committees have carried on.

The following meetings were held during the month of February:

February 3	Membership Committee
February 6	Section on Neurology and Psychiatry
February 7	Board of Censors
February 8	Subcommittee on Program, Annual Scientific Assembly Section on Pathology and Laboratory Medicine
February 11	House Committee
February 12	Scientific Meeting of Society
February 17	Obstetrical Board
February 19	Scientific Meeting of Society
February 21	Section on Ophthalmology and Otolaryngology
February 24	Executive Board
February 25	Committee on Arrangements, A.S.A.
February 26	Scientific Meeting of Society
February 27	Medical Bureau Committee Board of Censors Section on Pediatrics

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Court Proceedings Published

It is perhaps unnecessary to call to the attention of physicians who subscribe to the *Journal of the American Medical*

Association that the proceedings of the trial of the American Medical Association, the Medical Society of the District of Columbia, the Harris County (Texas) Medical Society, the Washington Academy of Surgery, and individual defendants for violation of the Sherman Antitrust Act, are currently being published in the *Journal.* The first installment appeared in the February 15 issue. Those who cannot attend the trial will find the statements and testimony not only interesting but enlightening. No physician need be told that this is an important case, the results of which will have far-reaching implications.

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Medical Bureau's Third Month

That the Society's newest agency, Medical Bureau, the 24-hour telephone secretarial exchange, is being well received is indicated by the number of favorable comments which have been made by subscribers. Several have written letters to the Secretary of the Society stating their satisfaction with the manner in which the Bureau is being conducted.

Of greatest importance is the use being made of the Bureau's facilities. The number of calls handled in December and January have been reported in the last two issues of Medical Annals. Figures for February are as follows:

Calls completed from patient to physician	925
Calls received from physicians reporting their whereabouts	569
Calls where the inquirer had no physician and where a doctor on the "Emergency List" was sent; or, if indigent, calls referred to the Health Security Administration, Permit Bureau or Police Department	51
Requests for names of physicians	187
Total number of calls for February	1,732

The total number of recorded calls handled by the Bureau since it began operation is 5,045. As stated last month, numerous inquiries of a miscellaneous nature have been received, of which no record is made.

Demand for Speakers

The Society's Speakers' Bureau will place more speakers in 1941 than in any previous year. Since January 1, 14 speakers have addressed 8 groups and this is only the beginning for many speaking engagements remain to be filled.

Recently the Board of Education of the District of Columbia requested the Bureau to provide approximately fifty speakers to address students in the secondary schools on the effects of alcohol and narcotics. This extraordinary demand upon the Bureau will tax its resources. Additional speakers will, of course, be needed. An appeal for volunteers will therefore be directed to the Society's membership.

The Bureau is indebted to the physicians who have in the past accepted assignments to give talks. In every instance they have cheerfully responded when called upon.

Certainly the Society's educational program is one of its most worthwhile projects. Evidence of this is the number of letters received from various organizations expressing their gratitude.

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Volunteer Effort in Health Conservation

On the occasion of the Annual Meeting of Health Security Administration held on January 23, 1941, Dr. William DeKleine, Vice President of the Administration and Medical Director of the American Red Cross, emphasized the importance of volunteer service in a democratic society, especially as it relates to the field of health. Dr. DeKleine said:

> "Nowhere has the value of volunteer effort been demonstrated more effectively than in the field of health conservation. Present advances in the control of communicable diseases, progress in preventive medicine and the newer knowledge of nutrition, present standards in hospital service, and care of the sick and injured are to a large extent the outgrowth of many years of volunteer leadership in these fields of endeavor. Our death rates are among the lowest, the span of life among the longest, and life itself the happiest and freest of any

nation in the world. Stifling volunteer effort in a democratic society is not tenable. There can be no democratic society without it.

"No thinking person would question the wisdom of developing full time paid services in the field of public health and other activities essential for our individual and community welfare. We do not oppose larger appropriations and well paid trained personnel for public office, but we do object to brushing aside all existing volunteer agencies and interests that have contributed so much to our way of life. In the midst of a popular clamor for so-called public enterprise we would plead for the preservation of everything that is good in private endeavor and encourage extension of private leadership especially in unexplored fields of health conservation.

"Health Security Administration is a typical democratic institution pioneering in new methods of health administration. Its primary objective is to make it possible for all so-called indigent and near indigent sick in Washington and immediate vicinity to obtain the care they need. Length of residence or other criteria incompatible with a legal definition of indigence are not determining factors in the ministrations of this agency. Lack of adequate resources is the primary consideration. It helps all who need help and does it quickly and efficiently. It guides these needy individuals and families into channels where the necessary health services are available and helps solve their problems relating to physical rehabilitation.

"Health Security Administration performs this service by acting as a clearing house for agencies concerned with the care of the indigent sick. It arranges for the treatment of individuals and families in their jurisdiction and administers funds earmarked for that purpose. It relieves these agencies entirely of this responsibility and performs this service more efficiently and at less cost.

"What is even more significant, it utilizes the facilities of private agencies, particularly the Washington hospitals, thereby supplementing their income and helping to stabilize them in the community.

"Health Security Administration is now sufficiently well established that it can assure the hospitals of reasonable compensation. It pays them currently for service rendered and encourages the beneficiary to refund all or part of the cost involved. This procedure helps the individual to obtain the care he needs promptly and makes him entirely or partially self-supporting.

"Health Security Administration is a voluntary agency, exploring new methods of health administration. It has no parallel or precedent to follow in this particular field. There is no agency like it anywhere. Its primary aim is to help the indigent sick in a manner that will preserve and promote private endeavor.

"The majority of agencies in Washington and immediate vicinity concerned with the care of the indigent sick in their respective jurisdictions are now utilizing its services, which indicates that it commands their full confidence."

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New Jersey's Medical Service Plan

A state-wide medical service plan to be known as Medical Service Administration of New Jersey began operation on February 1, 1941. More than a year has been devoted to working out details preparatory to operation. Legislation approved by the Medical Society of New Jersey, allowing the incorporation of medical service corporations, was enacted by the New Jersey Legislature early in 1940. Subsequently the House of Delegates of the Society approved the organization of Medical Service Administration and advanced $11,000 for its operation for a period of one year.

The Administration offers the following three plans:

Plan No. I

The Medical Service Plan of New Jersey is a full coverage plan to reach persons with a maximum annual family income of $1,600, with an additional $400 annually for the wife and $200 additional for each dependent child.

Plan No. II

The Medical-Surgical Service Plan for Hospitalized Patients is designed to benefit employed persons only. The upper income limit of subscribers will be $2,000. It will pay for medical, surgical and auxiliary services rendered while the subscriber is a bed patient in an approved hospital, under the care of a private physician.

Plan No. III

The Farm Security Plan is sponsored by the Federal Farm Security Administration for the benefit of the semi-indigent farmer who has borrowed money from the Farm Security Administration and who has no other source of credit. It is similar to the E.R.A. medical plan, and must be on a state-wide basis.

According to the announcement, more than a thousand physicians have agreed to participate with the understanding that their agreement may be terminated by written notice to the Board of Governors. "Such termination," the agreement provides, "shall not be effective as to any [subscriber] Certificate in force at the time of such notice until the first date thereafter when such Certificates may be cancelled by the Administration."

In a message to the membership of the Medical Society of New Jersey, Dr. Watson B. Morris, President of the Society, states that "the Legislature of New Jersey . . . conferred upon The Medical Society of New Jersey the authority which will assist the profession in guiding and controlling certain proposed changes in the methods of distributing medical care.

"This legislative authority will permit the continued control of the private practice of medicine by the medical profession, the alternative of which might be the control of many phases of practice by a Federal, or State, or lay agency."

The New Jersey plan is one of many of a similar nature which have been sponsored by medical societies in the past year. Because of the care with which the plan has been developed and the support which it has evidently received from many sources outside the profession, its progress will be observed with much interest.

POSTGRADUATE COURSES OFFERED

Encouraged by the splendid reception given the Postgraduate Course in Syphilology last January, the Society's Committee on Postgraduate Education is offering two courses in the months of March and April. Not only are the subjects of these courses timely and of general interest, but outstanding figures in their respective fields have been obtained as lecturers. A large enrollment is anticipated, for this is an opportunity which most physicians in Washington will wish to take advantage of.

Pertinent facts about the courses are:

POSTGRADUATE COURSE IN OFFICE SURGICAL PROCEDURES

First Lecture: Monday, March 17: "General Surgery," W. Wayne Babcock, M.D., F.A.C.S., Professor of Surgery and Clinical Surgery, Temple University Hospital; Surgeon to Temple University and Philadelphia General Hospitals.

Second Lecture: Monday, March 24: "Gynecological and Genitourinary Surgery," I. C. Rubin, M.D., F.A.C.S., Gynecologist, Mt. Sinai Hospital; Visiting Gynecologist, Montefiore Hospital, New York City.

POSTGRADUATE COURSE IN PSYCHONEUROSES IN GENERAL PRACTICE

First Lecture: Monday, April 21: "Differential Diagnosis of Psychoneuroses," Walter Clement Alvarez, M.D., Professor of Medicine, University of Minnesota (Mayo Foundation); Consulting Physician, Division of Medicine, Mayo Clinic.

Second Lecture: Monday, April 28: "General Management of Psychoneuroses," Leslie Benjamin Hohman, M.D., Assistant in Psychiatry, Johns Hopkins University; Assistant Visiting Psychiatrist, Johns Hopkins Hospital.

All lectures will be held in the auditorium of the Medical Society Building, 1718 M Street, N.W., at 8:00 p.m. Fee for each of the above courses is $2.00. Income from this source, it is expected, will cover expenses.

Arrangements are being made to furnish copies of lectures to each physician enrolled.

NOMINATIONS FOR ELECTIVE OFFICES

The following nominations for elective offices were made in the order shown at the business meeting of the Medical Society on March 5, 1941:

**For President-elect*	Francis X. McGovern A. Magruder MacDonald
For First Vice President	J. Lawn Thompson, Jr.
For Second Vice President	Grace Purse
For Member of Executive Board	Daniel L. Borden
For Member of Board of Censors	Allen S. Cross
**For Delegate to American Medical Association*	Henry C. Macatee R. Arthur Hooe
For Alternate Delegate to American Medical Association	Arthur C. Christie

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* One to be elected.

Elections to the above offices will be held at the annual business meeting, May 7, 1941.

PRESIDENT'S
PAGE

SUMMONED

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

Criminal Court No. 2
District Court of the United States for the District of Columbia

Daniel Le Ray Borden

MEDICAL PREPAREDNESS NEWS

Upon the request of Lieutenant Colonel A. C. Gray, State Medical Officer for Selective Service in the District of Columbia, the following additional recommendations for appointment to various Selective Service boards have been made by the Committee on Medical Resources:

Medical Advisory Board (A):

Ophthalmologist	A. Edward Meisenbach, Jr.

Medical Advisory Board (B):

Chest	W. Leroy Dunne
Dentist	J. Edward Bowman*

Medical Advisory Board (C):

Chest	Clayton B. Ethridge

Additional members of Medical Advisory Boards serving with examining physicans in hospitals:

Emergency Hospital:	
Ophthalmologists	James N. Greear, Jr. Sterling Bockoven Harold R. Downey
Otolaryngologists	Daniel B. Moffett Leroy L. Sawyer
Garfield Hospital:	
Ophthalmologists	G. Victor Simpson Frank D. Costenbader
Otolaryngologists	Victor R. Alfaro P. S. Constantinople
Georgetown Hospital:	
Ophthalmologists	E. Leonard Goodman John T. Schnebley Everett S. Caldemeyer Richard W. Wilkinson
Otolaryngologists	J. Gordon Bell Aubrey D. Fischer
Providence Hospital:	
Ophthalmologists	Ernest Sheppard Bernard J. Gurwin Ronald A. Cox
Otolaryngologists	John H. Trinder Samuel Luber
Sibley Hospital:	
Ophthalmologists	Michael F. Kennedy John R. Lloyd Joseph Dessoff
Otolaryngologists	Lyman B. Tibbetts A. C. Thompson

Alternates:

Ophthalmologists	Leroy W. Hyde Benjamin Rones Hector C. McKnew Samuel A. Machlis Allen E. Walker, Jr. G. Haven Mankin

The following replacement was recommended:

Medical Advisory Board (C):

Radiologist	Fred O. Coe, for Joseph F. Elward

Additional examining physicians recommended for appointment:

District No. 1	Joseph J. Bateman
District No. 2	John V. Dolan
District No. 3	Harry M. Fletcher
District No. 4	Harry F. Dowling
District No. 5	Austin B. Chinn
District No. 6	John L. DeMayo
District No. 7	Thomas F. Bradley
District No. 8	Clapham P. King
District No. 9	Lewis A. Klein
District No. 10	Arthur H. Lewis
District No. 11	Leon S. Gordon
District No. 12	Paul R. Wilner
District No. 13	Irving Burka Willard B. Walters
District No. 14	Louis P. Levitt
District No. 15	Eugene deSavitsch
District No. 16	Howard E. Newman
District No. 17	Richard F. Tobin
District No. 18	J. Rogers Young
District No. 19	Warren P. Burch
District No. 20	Raymond Maret
District No. 21	John F. Finnegan
District No. 22	Valentine M. Hess
District No. 23	William C. Lambert
District No. 24	Donald W. Ingham
District No. 25	Harry A. Spigel

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Inquiries have been received by the Society's Committee on Medical Resources as to the status of medical students who are drafted for military service. Attention of those who are interested is directed to an announcement in the *Journal of the American Medical Association* for February 22, which states that the Committee on Medical Preparedness of the American Medical Association, the Subcommittee on Medical Education of the Health and Medical Committee of the (National) Coördinator for Health and Welfare, and the Council on Medical Education and Hospitals of the American Medical Association, sent the following telegram to Mr. Clarence A. Dykstra, Director of the Selective Service System, in Washington:

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* Recommended by the Medico-Chirurgical Society, Inc. of Washington.

" '1. Since the five-year preparedness program of the government will require about three thousand, five hundred medical graduates annually to enter the service of the Army, Navy and Public Health Service for a year's training, the education of physicians must be continued at the present level and without interruption.

" '2. This is so vital to military and general welfare that we urge the Director of Selective Service to make clear to draft and appeal boards that it is in the interest of the country to provide deferment of military service for students in good standing in approved medical schools who may be called for duty under the Selective Service Act until they shall have obtained the degree of doctor of medicine. The Committee on Medical Preparedness of the American Medical Association offers its facilities for the verification of the credentials and such other information as may be needed in connection with the application of any medical student for deferment.

" '3. In order to provide a continuing supply of qualified medical students for the medical schools of this country, we urge also that students who have been accepted for admission to approved medical schools in a period not to exceed twelve months preceding enrolment be granted deferment of military training in order that they may complete the requirement for admission to medical schools.

" '4. Suggestions that the number of medical students be increased can have no relationship whatever to the situation now confronting us because such an increase in the number of students admitted to medical schools during the current year could not in any way affect the number of doctors available for either military or civilian service before 1946. Such an increase of medical classes would surely tend to lower the quality of instruction and in the end cause a deterioration of medical service.' "

The *Journal* comments:

"Almost preposterous is the strange suggestion emanating from some leaders in Washington that only third and fourth year medical students and interns be deferred. When it is realized that there is a constant and definitely anticipated loss of men from the medical schools from the day of first enrolment to the day of graduation, it can be recognized that any depletion of available medical students from the moment when they are accepted for entrance into medical school until they have finally completed their internship will be hazardous in times like these."

No statement has yet been forthcoming from National Headquarters of the Selective Service System.

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Word has been received at the Medical Society's office that the following members of the Society have been called into military service during the past month: E. Herbert Bauersfeld, Norvell Belt, John F. Dominick, John L. Cardwell, James H. Gillen, Edward J. Grass, Clayton H. Hixon, Benjamin P. Lafsky, Leslie K. MacClatchie, Reginald H. Mitchell, Joseph M. Moore, John A. Swartout, Albert M. Wheeler and Paul R. Wilmer.

AN APPEAL FROM CHINA

The following is an excerpt from a letter received by the American Red Cross from Dr. John Earl Baker, Director of the American Red Cross Committee in China, dated Hongkong, January 23, 1941:

"A number of the surgeons and medical men in the interior of China have voiced a feeling of great deprivation in the loss of contact with what their profession is doing in the way of new processes. Because of high rates of exchange and the low salaries paid army surgeons and public health officers, and the many losses which numbers of these able men have suffered in forced removals, bombings, etc., they are no longer able to subscribe for the journals which formerly kept them abreast with their profession. If a few subscriptions could be sent to strategic points, these could be put through a routine so that in time they would get to those who could use them best. In some cases copies of important articles could be mimeographed. Couldn't a few journals be considered as 'surplus commodities'? These doctors are certainly 'victims of aggression'."

If ten members of the Medical Society of the District of Columbia will deposit their copies of the Journal of the American Medical Association, after they have finished with them, with Mr. Theodore Wiprud, Secretary of the Society, National Headquarters of American Red Cross will assume the responsibility of collecting them every month and forwarding them to Dr. Baker in Hongkong. Dr. Baker will then distribute the journals to the medical men of China who most need them.

Ernest J. Swift
Vice Chairman, American Red Cross

MEETINGS

Wednesday, April 2

The *Syphilis Journal Club* will present the following program:

"Clinical Epidemiology in the Management of Syphilis." E. GURNEY CLARK, M.D., Associate in Venereal Diseases, School of Hygiene and Public Health, Johns Hopkins University; formerly Associate Professor of Medicine, Syphilis Division, Vanderbilt University (guest speaker)

"Recognition of Syphilis in the District of Columbia." GEORGE M. LEIBY, M.D., Director of Bureau of Venereal Diseases, District Health Department

"Best Serologic Tests for Syphilis." HENRY H. HAZEN, M.D., Professor of Dermatology and Syphilology, Howard University School of Medicine; Consultant, United States Public Health Service

"Early Neurosyphilis." WILLIAM H. HOUGH, M.D.

"The Clinical Diagnosis of Syphilis." CHARLES R. L. HALLEY, M.D., Clinical Professor of Medicine, George Washington University School of Medicine

Wednesday, April 9

The *Section on Pediatrics* will present the following program:

"The Neurological Complications of the Common Contagious Diseases." R. CANNON ELEY, M.D., F.A.A.P., Boston, Mass.

Wednesday, April 16

"An Outbreak of Bronchopneumonia in a Girls' School." WORTH B. DANIELS, M.D., Clinical Professor of Medicine, Georgetown University School of Medicine

"Arthritis"—specific title to be announced. RALPH PEMBERTON, M.D., F.A.C.P., Professor of Medicine, Graduate School of Medicine, University of Pennsylvania, Philadelphia. Discussion will be opened by CUSTIS LEE HALL, M.D., F.A.C.S., Clinical Professor of Surgery, George Washington University School of Medicine

Wednesday, April 23

Program to be furnished by the *Washington Heart Association* (speakers and subjects to be announced).

Wednesday, April 30

PRESIDENT'S NIGHT

Presidential Remarks, illustrated. DANIEL L. BORDEN, M.D., F.A.C.S., Associate Professor of Surgery, George Washington University School of Medicine

Presentation of award for meritorious service to the Medical Society of the District of Columbia.

Excellent entertainment by members of the Medical Society and the Woman's Auxiliary.

Wives are invited to attend this meeting. A buffet supper will be served.

MEMBERSHIP

The following applicants were duly elected to membership at the business session, February 12, 1941:

Active Members

Clarence Kendall Fraser, 1835 Eye Street, N. W.
Alexander Halperin, 1028 Connecticut Avenue, N. W.
Clarence Joseph Kelley, 1954 Columbia Road, N. W.
Alvin E. W. Wode, 1726 Eye Street, N. W.

Associate Members

George John Hageage, 9 Barney Street, Cottage City, Md.
Leland Floyd Hobbs, 815 Prince Street, Alexandria, Va.
Clara Lucile Hoye, St. Elizabeths Hospital
Stuart W. Lippincott, National Cancer Institute, Bethesda, Md.
Herbert DeGrange Wolff, Jr., 815 Prince Street, Alexandria, Va.

The following applicants were duly elected to membership at the business meeting, March 5, 1941:

Active Members

Richard Maurice Rosenberg, 1332 Eye Street, N. W.
Harry Sacks, 1667 Good Hope Road, S. E.

The following applicants for membership will be voted on at the business session, April 16, 1941:

For Active Membership

Dunlap Pearce Penhallow, Harvard Medical School—1906

For Associate Membership

Thelma Brumfield Dunn, University of Virginia—1926

The following applicants for membership will be voted on at the annual business meeting, May 7, 1941:

For Active Membership

William Eldridge Bageant, George Washington University—1939
Camp Stanley Huntington, George Washington University—1939

For Associate Membership

Pearl B. Holly, New York University—1938
Frederick Dodge Mott, McGill University—1932
William Bell Wardrop, Georgetown University—1934

NEWS AND PERSONALS

The National Foundation for Infantile Paralysis is sponsoring a series of lectures during April on infantile paralysis. These lectures will be presented at Vanderbilt University, Nashville, Tennessee, at 8 o'clock in the evening, April 7, 8, 9, 14, 15 and 16. Speakers from all parts of the country have been asked to participate in this course, which is designed to cover the entire field of the disease. The National Foundation plans to publish the material, which should constitute a recent survey of the field of infantile paralysis.

The American Association for the Study of Neoplastic Diseases will hold its spring meeting in the Kellog Building, Garfield Hospital, April 3, 4 and 5, 1941. Topics for discussion will include the following: lesions of the female genital system; lesions of bones; endothelioma of the meninges, nerve trunks and ganglia, serous membranes, bone, skin, ovary, lymph-nodes; lesions of the gastrointestinal tract; lesions of the endocrine glands; lesions of the male genitourinary system.

The Fifth Annual Intensive Postgraduate Course in Ophthalmology will be presented by George Washington University School of Medicine, April 7-12. The fee for this course is $50, $15 payable with registration and the balance due on matriculation. The registration desk will be open Sunday, April 6, between 5:00 and 7:30 p.m. and on Monday, April 7 between 7:30 and 8:20 a.m. The course will begin promptly at 8:30 a.m. at the School of Medicine, 1335 H Street, N. W. Following is a list of the guest lecturers:

Dr. James H. Allen, Iowa City, Iowa; Dr. S. Judd Beach, Portland, Maine; Dr. Arthur J. Bedell, Albany, New York; Drs. Alfred Cowan and Dorothy Behner Holmes, Philadelphia; Dr. F. Bruce Fralick, Ann Arbor, Michigan; Drs. Allen Greenwood and Theodore L. Terry, Boston; Drs. LeGrand H. Hardy, Algernon B. Reese, Bernard Samuels, James Watson White and Elizabeth K. Stark, New York City; Dr. Parker Heath, Detroit; Dr. Peter Kronfeld, Chicago; Dr. Walter B. Lancaster, Hanover, N. H.; Drs. Angus L. MacLean, James I. Moore and Joseph E. Moore, Baltimore; Dr. Horace E. Allen, Columbia, Mo.; Drs. Lt. Col. J. E. Ash, Sterling Bockoven, Everett S. Caldemeyer, Lt. Col. Virgil H. Cornell, Frank D. Costenbader, J. Thomas Schnebley, Inez Edith Wilber, Dorothy R. Bair and Helenor Campbell Wilder, Washington.

Announcement is also made of a **Practical Course in Ocular Surgery, Pathology and Orthoptics,** limited to 25 participants, to be held April 14-19. The fee for this course is $100, $25 payable with registration and the balance payable on matriculation. Applicants may register for this course on Monday, April 14 from 7:30 to 8:30 a.m. at the School of Medicine, 1335 H Street, N. W.

The Medical Society of Virginia, in coöperation with the University of Virginia Medical School, the Medical College of Virginia and the Elizabeth City County Medical Society, is conducting a **Postgraduate Course in Internal Medicine and Surgery** on Friday evenings, March 7 through April 11, at 8:30 p.m. The place of meetings will alternate between the Dixie Hospital, Hampton, Va., and the Elizabeth Buxton Hospital, Newport News, with the first meeting at the Dixie Hospital. Detailed information may be secured by writing to Dr. Robert H. Wright, Jr., Phoebus, Va.

A special committee has been appointed by the Executive Board to plan a memorial in memory of the late **Dr. Francis R. Hagner.** Members of the committee are: Drs. Luther H. Reichelderfer, Edward Y. Davidson and John D. Thomas.

At a meeting of the Executive Board on January 27 additional **appointments to several committees** were confirmed:

Medical Bureau: Drs. Harold M. Hobart, Frank L. Williman and R. K. Hollingsworth

Medical Resources: Dr. Henry C. Macatee

Membership: Drs. Maurice A. Selinger, Jesse T. Mann, J. Russell Verbrycke, David Davis and Neil P. Campbell

Postgraduate Education: Drs. Arnold McNitt, Herman S. Hoffman, W. Ross Morris, J. Duerson Stout, Robert J. Bosworth and William J. Mallory

During the past month members of the **Speakers' Bureau** appeared before the following groups:

February 27—Junior Board of Commerce
  "Appendicitis—An American Tragedy," Dr. W. Warren Sager
March 5—Senior students, Woodrow Wilson High School
  "Vocational Guidance," Dr. John M. Baber
March 7—Red Cross Class
  "Cancer," Dr. Truman Abbe

The Executive Board recommended the reappointment of **Dr. F. X. McGovern** to serve on the Board of Trustees of **Group Hospitalization, Inc.**, at its meeting February 24, and the Society approved the recommendation at the business meeting March 5.

Reappointments to membership in **Health Security Administration** for the coming year were made by the Executive Board on January 27 as follows:

Drs. A. B. Bennett, Charles B. Campbell, Arthur C. Christie, Raymond T. Holden, Oscar B. Hunter, Loren B. T. Johnson, James Alexander Lyon, Henry C. Macatee, William B. Marbury, P. A. McLendon, Margaret Nicholson, Howard P. Parker, Herbert P. Ramsey, Sterling Ruffin, Joseph S. Wall.

Dr. Henry R. Schreiber was appointed to take the place of Dr. J. Bay Jacobs, who has resigned.

The Washington Ophthalmological Society will hold a meeting on Monday, April 7 at 8:00 p.m. in the Medical Society's auditorium. Guest speakers from the George Washington Postgraduate Course in Ophthalmology will participate in the following program: "Recent Developments in the Treatment of Conjunctivitis," Dr. James H. Allen, Iowa City; "Squints in Life, Literature and Art," Dr. James Watson White, New York City; "Some Important Factors in Diagnosis and Treatment of Uveal Malignant Melanoma," Dr. T. L. Terry, Boston; "Iridocyclitic Secondary Glaucoma," Dr. F. Bruce Fralick, Ann Arbor, Mich.

At a meeting March 3 at the Episcopal Eye, Ear and Throat Hospital, Dr. James N. Greear read a paper on "The Eye in Hypertensive Cardiovascular Disease." Case reports and case presentations were made by Drs. Joseph Dessoff, Benjamin Rones, Sterling Bockoven, G. Victor Simpson, Clifford Swanson and Richard W. Wilkinson.

The Clinico-Pathological Society held a dinner meeting February 18 at the Metropolitan Club. Case reports were presented as follows: "Hemolytic Jaundice, Familial Type," Dr. Edward B. Broocks; "Chemotherapy in Pneumonia," Dr. Worth B. Daniels; "Case of Supra-pubic Fistula," Dr. Homer G. Fuller.

At a meeting March 4 Dr. John W. Burke presented a case report on "Thrombosis of the Retinal Artery." Other case reports were given by Drs. William H. Hough and Lewis C. Ecker.

The program of the **Hippocrates-Galen Society** for their meeting March 6 follows: "Sympathectomy in the Treatment of Hypertension," Dr. W. Ross Morris; "Sarcoid of Boeck, with Involvement of the Skin, Bones, Lungs and Eye," Dr. L. Keith MacClatchie.

Dr. Daniel F. Lynch, President of the District of Columbia Dental Society, opened the Five State Postgraduate Clinic on March 10. At a symposium relating to national defense, Dr. C. Willard Camalier, Chairman, spoke on "The Dental Profession and the National Defense." He also presented "A Report of the President's Committee on Health and Medical Preparedness." Another Medical Society participant was Dr. Eugene Whitmore, who conducted a clinic on "Cancer of the Stomach."

Children's Hospital was the recipient February 11 of an electrocardiograph, a gift of the Private Chauffeurs' Benevolent Association.

At the February luncheon of the **District of Columbia Council of Social Agencies** discussion was held on data in the field of handicapped children. Dr. William Carey Meloy spoke on "Help Save Their Hearing"; Dr. Bernard J. Walsh gave a talk on "Cardiac Children."

Dr. William Gerry Morgan has presented the Society with a copy of "The American College of Physicians—Its First Quarter of a Century." The volume is excellent, both as to contents and appearance. Dr. Morgan, College historian, is editor of the book.

Dr. Morgan became a Fellow of the American College of Physicians in 1916. He served as Secretary of the Executive Council, President of the American Congress on Internal Medicine, and later was Governor for the District of Columbia. He was a member, first of the Council from 1916 until its reorganization in 1922, then of the Board of Regents from 1922 to 1930. He held the office of Secretary-General from 1932 to 1938, when he was elected Third Vice President.

Dr. Charles L. G. Anderson has just announced the publication of his new book, "Life and Letters of Vasco Nunez de Balboa." As a surgeon in the United States Army, Dr. Anderson participated in the Apache wars, the Spanish-American War in Cuba, the Philippine Insurrection and the World War. He was also a physician to the Isthmian Canal Commission.

Dr. Roy Lyman Sexton, Chairman of the Public Health Committee of the Washington Board of Trade, has appointed **Dr. Darrell C. Crain** chairman of the subcommittee to coöperate with the Medical Society, and **Dr. C. Willard Camalier** chairman of the subcommittee to coöperate with the Dental Society.

Dr. James Alexander Lyon has resigned from the staff of Georgetown University Hospital and as Chief of the Cardiac Clinic, Children's Hospital, having served in both these positions since 1931. Dr. Lyon has accepted an appointment as Consultant in Cardiology at Children's Hospital.

Dr. William T. Gill, Jr., who has served as surgeon for the Last Man Club of World War veterans, addressed the members at their banquet on February 15. Dr. Gill read a letter from an insurance company predicting the life expectancy of the assembled group.

Dr. Charles Stanley White read a paper entitled, "Plasma and Shock," at the convention of the Tri-State Medical Association, held in Greensboro, N. C., February 24 and 25.

Dr. J. Winthrop Peabody addressed the Mothers Club of St. John's High School, February 7, on the subject, "Guarding Our Health."

Dr. William DeKleine read a paper on "Contribution of Voluntary Hospitals to National Defense" at the annual meeting of the Health Security Administration, January 23.

Dr. Henry H. Hazen, president of the District Social Hygiene Society, criticized Washington's program for the control and prevention of venereal diseases at a meeting of the Social Hygiene Society on February 5. The luncheon was in observance of National Social Hygiene Day.

Dr. Lynn Colvin has succeeded **Dr. Gilbert Ottenberg** as one of the staff physicians for the District Boxing Commission. Dr. Ottenberg resigned recently after having held the position since the Commission's establishment.

Dr. L. H. Reichelderfer has been reëlected Second Vice President of the Board of Directors of Garfield Memorial Hospital.

Dr. Alexander Simon addressed the District of Columbia Occupational Therapy Association at a general meeting January 24 on the subject, "Modern Trends in Psychiatric Treatment." He illustrated his talk with motion pictures depicting "Pharmacological Shock Therapy in Depressive Reactions."

The Washington Academy of Sciences reëlected **Dr. Fred O. Coe** as Vice President representing the Medical Society, January 16.

CORRESPONDENCE

Washington, D. C.
February 5, 1941

Dr. Daniel L. Borden, President
Medical Society of the District of Columbia
Washington, D. C.

My dear Dr. Borden:

I write to express my thanks and appreciation for the splendid aid and coöperation which I have received from the members of the Medical Society of the District of Columbia in my administration of the Selective Service Act in the District of Columbia. The experience of the past several months has clearly demonstrated that one of the wisest decisions I have made was to make no recommendations for the appointment of any physician for service under the provisions of the Act unless he was recommended to me by your Society. In the administration of the Act in the District of Columbia there are now participating on an entirely volunteer basis more than 100 physicians. The record made by them is the best evidence of the great value of their services. To each of these physicians goes my unbounded thanks and appreciation for the services they have performed, which they now are performing, and which they will continue to perform.

I can't estimate too highly the services and coöperation which I have received from your Special Defense Committee, the Chairman of which is Dr. F. X. McGovern, and of which the Secretary is Mr. Theodore Wiprud. I have made many calls upon this Committee. The Committee's response has in every case been marked by efficient and cordial dispatch. Will you be good enough to express to each and every member of the Committee my sincere thanks.

Just as I asked for the Society's recommendations in the naming of examining physicians and members of Medical Advisory Boards, so, too, did I ask the Society for its recommendation of a physician to serve as my Medical Adviser. The Society and I are fortunate in the selection which was made in the person of Lt. Col. A. Clagett Gray. Well qualified in his profession, untiring in his efforts, and possessed of a fine personality, Dr. Gray has been and is of great value in the efficient operation of the medical section of my administration of the Act.

With warm personal regards, I am

Faithfully yours,
Albert L. Cox
District of Columbia Director
for Selective Service

Detroit, Mich.
December 28, 1940

Dr. Wallace M. Yater
Georgetown University
Washington, D. C.

Dear Doctor:

I have just finished a rereading of a condensed article in the Current Medical Digest the Title of the article, Fads and Fallacies in the Diagnosis and treatment of Hypertension.

This article I found very depressing especially since it is written by an authority on internal medicine of university ranking. I became more interested since I recently had a discussion with my son-in-law who recently was graduated from Michigan. His understanding is in accord with yours both of which I do not agree with.

Your psycho-therapy is generally accepted by all physicians and offers nothing new. The caution that is required for moderate living is also generally accepted and has been used for many years. Some of the misconceptions which you mention are good and should be understood by all and I believe they are.

The diagnosis of essential hypertension is surely open for discussion. In your list of causes you mention many things which I have never heard of even tho I do read all of the articles I see on this subject. After all these things are of no consequence to the general or maybe the internest because since they are very much like the weather. A lot of talk but nothing can be done about it. With regard to the causes of hypertension, again it appears to me like the old problem of which came first the chicken or the egg. That is how simple it is to me. You are much like Mr. Osler who wrote a book about medicine but never did anything about the treatment leaving the matter entirely up to the student. I guess Mr. Osler must have gained his fame from other sources undoubtedly his humanitarian point of view.

I have been in practice for thirty four years in a large city, have been in contact with some of the greatest minds in medicine, have visited clinics in various countries and never until recently have I heard such expressions of pessimism. But I am willing to allow that I have been all wrong for all of these years and that science is right especially since I believe that science is God. But after treating many cases of hypertension during these years my experience does not bear out your contention. I am a firm believer in treatment and especially diet provided it is carried out over a long period. I have yet to see a case that has not responded for at least a short time for treatment. I recommend the omission of the heavy proteins such as meat, fish, eggs and cheese and with this K. I. and sodium nitrate. These cases are all ambulatory so I will allow that maybe the type of cases you handle are much farther advanced and you get them when they are on their last round up.

Never-the-less Doctor I am not looking for argument but understanding. I know that you must of necessity know much more about this subject than I do. I will conclude by saying that there is a higher plane in medicine as there is claimed in religion, which is only for those who devote their entire time to the subject.

Happy New Year To You Doctor.

Sincerely and Fraternally Yours
J. L. Asselin, M.D.

BOOKS RECEIVED FOR REVIEW

Acknowledgment is made of the following books which have recently been received for review:

Clinical Pellagra. Seale Harris, M.D., Professor Emeritus of Medicine, University of Alabama, Birming-

CAT.

ham. Pp. 494, with illustrations. Price, cloth, $7.00. St. Louis: Mosby, 1941.

Taber's Cyclopedic Medical Dictionary. Clarence Wilbur Taber, Editor in Chief, and Associates. Pp. 1500, with 273 illustrations. Philadelphia: Davis, 1940.

Transactions of the American Therapeutic Society, 1939–1940. Pp. 161. New York: American Therapeutic Society, 1940.

BOOK REVIEWS

Accepted Foods and Their Nutritional Significance. Council on Foods of the American Medical Association. Price, cloth, $2.00. Pp. 512. Chicago: American Medical Association, 1939.

This publication contains descriptions and detailed information regarding the chemical composition of more than 3,800 accepted products, together with a discussion of the nutritional significance of each class of foods. The book provides also the Council's opinion on many topics in nutrition, dietetics and the proper advertising of foods.

This book will be a welcome reference book for all persons interested in securing authoritative information about foods, especially the processed and fabricated foods which are widely advertised. The accepted products are classified in various categories: fats and oils; fruit juices including tomato juice; canned and dried fruit products; grain products; preparations used in the feeding of infants; meats, fish and sea foods; milk and milk products other than butter; foods for special dietetic purposes; sugars and syrups; vegetables and mushrooms; and unclassified and miscellaneous foods, including gelatin, iodized salt, coffee, tea, chocolate, cocoa, chocolate-flavored beverage bases, flavoring extracts, dessert products, baking powder, cream of tartar, baking soda, cottonseed flour. There is a suitable subject index as well as an index of all the manufacturers and distributors of food products that stand accepted by the Council on Foods.

Accepted Foods is indispensable for the library of every physician concerned with foods and nutrition.

Simplified Diabetic Manual, Second Edition. Abraham Rudy, M.D., 216 pages, M. Barrows and Company, Inc., New York, 1940. Price $2.

This is an excellent little book for the use of patients with diabetes. As it should, it leaves the establishment of the diet and the insulin dosage to the physician in charge. The section on dietetics is particularly good.

CHARLES WARDELL STILES, M.D.
(1867–1941)

Dr. Charles Wardell Stiles, Medical Director, retired, of the United States Public Health Service, an Associate Member of the Medical Society of the District of Columbia, died at the Marine Hospital, Baltimore, January 24, 1941.

Dr. Stiles was born in Spring Valley, New York, May 15, 1867. He studied extensively both in the United States and abroad, receiving A.M. and Ph.D. degrees from Leipzig University in 1890, his degree in medicine from the Paris Academy of Medicine in 1895, and honorary degrees from Wesleyan University, University of Richmond, University of North Carolina and Yale.

His entire life was spent in laboratory, hospital and field work. He was zoölogist in the Bureau of Animal Industry from 1891 to 1904. In 1902 he became Professor of Zoölogy of the United States Public Health Service, which position he held until 1930. He was appointed Medical Director in 1930 and retired as Medical Director in 1931.

Dr. Stiles served as Vice President of the International Zoölogical Congress in 1910, 1913 and 1927. He held membership in many American and European scientific and medical societies, including the Société de Biologie, France, Zoölogical Society, London, Académie de Médecine, France, American Medical Association, New Hanover County Medical Society, N. C., the Southern Medical Association; also honorary fellowship in the Royal Society of Tropical Medicine, England. He was the author of numerous books, reports and papers on medicine, zoölogy, parasites, etc.

His wife, Mrs. Virginia Baker Stiles of Washington, residing at 3218 Cleveland Avenue, N.W., survives him.

EDWARD MASON PARKER, M.D., F.A.C.S.
(1860–1941)

Dr. Edward Mason Parker, retired physician, a former member of the Medical Society of the District of Columbia, died at his residence, Highlands Apartments, January 13. Dr. Parker was the first house surgeon at Johns Hopkins Hospital and was former chief of the Providence Hospital surgical staff.

Dr. Parker was born in Middlebury, Vermont, in 1860. He graduated from Middlebury College in 1881 and received his degree in medicine from the New York University Medical College in 1888. Following study of surgery at Johns Hopkins University, he was appointed the first house surgeon at the University Hospital in 1889. In 1891 he came to Washington to become chief of the surgical staff of Providence Hospital. During the World War, Dr. Parker served in the Army with the rank of major. He was chief of surgical service at Camp Lee, Virginia.

While a young man, Dr. Parker wrote several medical textbooks. He was a Fellow of the American College of Surgeons and held membership in the Military Order of the World War and the Cosmos Club.

Surviving is his wife, Mrs. Adalyn Hawthorne Parker of Washington.

(*Continued from page 94*)

The patient's depression probably delayed her convalescence. The urine might have been examined for formic acid, but this did not occur to us until 2 days after the accident.

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(*Continued from page 97*)

Summary

A typical case of rat-bite fever in a negro child is described. The diagnostic features of this case were a history of rat bite followed after 7 days by a fever, local swelling without suppuration, regional adenitis, a characteristic temperature curve, a well-defined rash, and the isolation of Spirochaeta morsus muris from the blood by animal inoculation tests. This is the first proved case of rat-bite fever reported in the District of Columbia.

Five species of rodents inoculated with the present strain of Spirochaeta morsus muris contracted the infection and became chronic carriers of the etiologic agent of rat-bite fever.

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(*Continued from page 103*)

We thought at first that we were dealing with polycystic kidneys that had failed to develop, and sometimes you do find polycystic kidneys in children of this age that are not large. The size of the kidney, however, does not rule out the polycystic type, although as a rule polycystic kidneys undergo marked compensatory hypertrophy. With polycystic kidneys the little sacculations or cysts never communicate with the pelvis, while in the kidneys of renal dwarfism the dilated cystic areas are in direct communication with the pelvis of the kidney. Our final diagnosis was congenital renal aplasia with resultant hypertension, cardiac hypertrophy and terminal uremia.

MEDICAL ANNALS
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VOLUME X APRIL, 1941 NUMBER 4

HEALTH AND NATIONAL DEFENSE*

NATHAN B. VAN ETTEN, M.D., F.A.C.P.
President, American Medical Association

The American Medical Association is ninety-five years old.

Hard labor, hard study and sometimes inspired leadership has carried American Medicine to the supreme place among the health services of the world.

Retrospectively, the story of American Medicine is full of successive triumphs over stumbling ignorance as our pioneers searched for new frontiers of science.

The romance of the doctor as he progressed from empiricism to scientific controls and from the saddlebag to the automobile is a thrilling story of devotion to idealism.

The last fifty years is the inclusive period of most of modern medicine. Modern medicine is the end result of the evolution of individual efforts to cure the sick, restore them to functional usefulness, and to enlist community support in the prevention of disease.

Forty years ago improving statistics and faith in modern methods inspired Herman Biggs to say that "Public Health is purchasable. A community can, within certain limits, determine its own death rate." You all know how amply the Biggs dictum is justified today.

This very afternoon in New York City the seventy-fifth anniversary of the founding of the City Health Department was celebrated. Infant mortality was 250 per 1,000 live births in 1866 and is now 34 in 1940. Diphtheria claimed 3,000 victims annually in 1866, but last year only 10 children died from this disease. The death rate from tuberculosis in upstate New York has been cut in half since 1920, when it was 74.6 per 100,000 of population; and in 1940 it was 36.3.

Similar statistics are reported from many sections of the United States and especially from places where there is intelligent concert of action between practicing physicians and local health officials.

Organized medicine has made marvelous contributions in coördinating the efforts of individuals, in encouraging them by helpful recognition, and in supporting high standards of ethical practice, which have been of the greatest importance to the general public in protecting them from swindling quacks and stupid incompetents.

Exemplary individuals have always inspired imitation. Outstanding genius has always had its followers, but organization has always been necessary to direct the freedom of fraternity along the roads which lead toward the greatest good to the greatest number.

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* Read before the Society, March 5, 1941.

Individual physicians accepted regulation by accepting the rulings of the county medical societies. The county societies merged their idealism with that of the state medical societies, which in turn formed the great federacy that is the American Medical Association, with a membership of 118,000 physicians.

It was a natural desire of these members that every function should work as efficiently as possible, that its motivation should be inspired by the highest ideals and supplemented by the best educational equipment, and so medical schools were encouraged to step up their curricula to the best of the world's standards. This has been done and today medical education in America has no superiors.

It was a natural and necessary desire that the working tools and the workshops of the doctor should be developed into and maintained as effective instruments of public service, and so the hospitals were modernized and encouraged and humanized and charged with definite responsibility.

It was a natural desire of every physician to enjoy hospital privileges, but the necessity of giving only the best possible service to the community imposed limitations and developed graded and classified services so that the patient could be reasonably guaranteed competent care.

The medical student is therefore trained to become an effective servant of the hospitalized sick, by living for a year or more in a hospital as a cog in a public service machine, as well as a licensed practitioner with all the rights that he may be competent to use in the community.

The tempo of life during the last fifty years has not only changed our ideas of normal living, but it has changed our vital statistics.

I read in a Washington paper that "heart disease caused twice as many deaths in 1939 as any other disease," that "of the 1,387,897 deaths reported in 1939, 360,634 were caused by heart disease" and 114,967 by cerebral hemorrhage, and that accidental deaths totaled 92,623, of which 32,386 were credited to the automobile.

During the last 50 years America became motorized and developed such exhausting speed that many failed in the struggle to keep up with a procession that endlessly tried to find new frontiers.

Life became so externalized by one scientific revelation after another that domestic and religious loyalties were often forgotten in the mad pursuit of new objectives that were undreamed fifty years ago.

Elusive ideals carried us through two wars without satisfaction and now we have come to a time when all that we have cherished must be defended against destruction by disintegration or external attack.

It is obvious that a European civilization is falling to pieces and a new social mosaic must appear. Whatever our sympathies we must prepare ourselves to play an important part in a new world order.

No one can accurately plot the future, but all Americans will be deeply concerned in the common cause of defending the nation and in promoting the security of the last and only surviving peaceful democracy.

We have seen that reversions from democracy to autocracy in Europe seem to have been caused by long disintegration of character by subsidizing the discontented to gain their support of governmental control under the aegis of paternalism.

If we are wise we must apply these lessons to our own evolution, not only to the peculiar problems concerned with our cosmopolitan society, but to the development of the special fundamental social problems concerned with the protection of the physical, mental and moral health of our people.

Although we have come to a time when every health agency must be mobilized for national defense, we must not only consolidate our gains, but we must push forward with objective planning which under normal conditions might carry us to new heights of distinguished service.

We must not be content with things that are, but look toward things that might be better.

The times are ripe for change and we must begin at once. Some of our clothes are outmoded; Thomas Jefferson said you cannot expect a grown man to wear the coat cut for him when he was a boy.

In 1875 the American Medical Association asked for a Secretary of Health in the cabinet of the President and has timidly restated its desires at various sessions of the House of Delegates.

In the first session of the Congress on March 6, 1939 Mr. Pfeifer introduced a bill "to establish a Department of Health." This bill was referred to the Committee on Expenditures in the Executive Department, where it died. Mr. Pfeifer revised it and reintroduced it in January, 1941. It is a first step in the National House of Representatives toward coördinating the health functions of our National Administration which are now scattered through many separate bureaus and major departments.

The bill provides for a Secretary of Health who must have a medical degree. If the bill should be enacted there would be transferred to the new department the Food and Drug Administration, the Division of Vital Statistics of the Bureau of the Census, Freedmen's Hospital and St. Elizabeths Hospital, the Children's Bureau, and all functions of the Public Health Service, of the Bureau of Narcotics and of the Health Department of the District of Columbia.

If local health departments have proved their value, if state health departments have become indispensable, why has a National Health Department been so long postponed?

Coördination of all federal health agencies except those of the Army and Navy seems a logical thing to do. The health of our people should be the honest concern of the chief executive. And the health authority should be a member of his cabinet.

I would like to see a new national department to be known as the Department of Health. I would like this new department to include the following bureaus:

1. Public Health
2. Infancy and Maternal Welfare (to be transferred from the Department of Labor)
3. Rehabilitation of veterans
4. Research
5. Licensure
6. Care of indigents
7. And other divisions to care for all other health responsibilities, fusing all departments into one less expensive to operate, and eliminating the confusion of overlapping and duplication.

It seems to me to be timely to drop complicated and antiquated methods and attack the problem courageously and efficiently.

Infancy and maternal welfare developed in the Department of Labor in response to wide outcry against child labor. Its objective has been largely realized and now requires a wider and more general type of direction.

Rehabilitation of veterans, developed under a stimulated emotional campaign, is now well established; hospitals are widespread and may well have a broader significance with the passing of time under a department of health.

Appropriations for research are now vested in the bureaus of Public Health and in appointed committees.

I believe that the value of such work would be greatly enhanced if these studies were coördinated in a Department of Health, where voluntary agencies, such as medical schools, voluntary hospitals and philanthropic foundations, could coöperate in directly helpful service for the information of the Government.

The National Board of Medical Examiners might fit into a function of a National Health Department.

Medical care of indigency looms as one of the most important functions of Government. A concert between local agencies through some new type of local, state and national machinery could well be headed in a National Health Department.

The migrating indigent is one of those for whom no local agency is willing to assume the responsibility. He is pushed from state to state and travels from one seasonal employment to another. I am told that there are now in California 385,000 of these unfortunate people, that 15 per cent of them are suffering from open tuberculosis, and that 2 per cent of them are active syphilitics.

No sickness insurance scheme can take care of such people who can make no regular contribution to any compulsory or government financing. Their care must be centralized. Would there be a better place for this work than in a National Health Department?

It would seem to be ideal to choose a career man to head this department.

There is reason to feel that those who are to direct public health administration should be specially trained in the science of administration before entering such a field.

I believe that the Secretary of Health should be a physician who has had enough experience in the practice of medicine to know the viewpoint of the patient as well as that of the physician. He should not be a political theorist.

There is evidence of a concerted drive for a general service to the sick, both preventive and curative, supported by taxation and under government control.

There is frequent reiteration of a desire for free medical care, patterned after free public education, all doctors salaried by the State, a complete system of State Medicine. There seems to be no limit to the belief that the public purse will be able to pay for it, even in the presence of evidence that State education is already too costly for the public pocket, and regardless of the fact that school budgets are now the subject of acrimonious debate and regardless of the mounting national deficit.

Prohibitive cost means nothing to strabismic political dreamers.

A new program must provide something better and simpler than these excursions into Utopia.

It will be interesting to observe the maneuvers in New Zealand, where a complete system of free medical care was scheduled to start on Saturday, March 1. It is reported that the plan was assailed by Dr. Jamieson, president of the National Medical Association, who called the scheme State helotry and said the government was in the position of a broker who has sold to the public something he did not possess and had taken money for it. The administration has now confessed that it is unable to carry out its contract and has told the people it would pay for the medical care if they were able to obtain it for themselves. The *New Zealand Medical Journal* charges the plan would make doctors State servants, but servants without working hours, vacations, promotions or pensions.

The *Journal* views the plan as a confession of error by the government in legislating its original social security scheme and declares the doctors' solid opposition has been proved by their virtually unanimous rejection of the plan.

I believe that needs for help should be discovered in the smallest political subdivisions, but that federal authority should be called upon as infrequently as possible.

I believe that medical service to the economic indigent and to the medical indigent is the problem of the taxpayer.

I believe that medical service to these two classes of people should be administered by the medical profession and that the physicians who do this work should be paid by the taxpayer.

I believe that medical service to other people of low income who are able to pay for ordinary but not for catastrophic illnesses should be shared by the medical profession and the taxpayer. The medical profession and the taxpayer should provide such needed medical service in tax-supported institutions either free or at minimum rates.

I believe that every effort should be made to provide for the average man so that he can prepare for emergencies without throwing himself upon the sources of charity.

Neither creed nor race should deprive any American of the benefits of the best of clinical medicine, but the manner of its delivery should evolve from simple formulae. The formulae should grow from the needs of the people as discovered by the family physician, the health officer, the public health nurse, and local welfare workers.

The formulae should grow into workable being in an orderly way which will require a period of time for short steps before long strides are taken. Much laboratory work must be done.

It is interesting to note a growing interest in and support of the new program of the American Medical Association. Senator Taft has expressed the hope that the Medical Association or some of its friends would introduce a bill into Congress embodying these basic principles. Other legislators have joined in the opinion that this is desirable.

From a powerful force within the administration has come the utterance of the Federal Security Administrator, the Honorable Paul V. McNutt. From his speech before the National Health Council on February 15, 1940 I quote a few paragraphs which reflect a new line of thought in Washington:

"Our ultimate objective must be to attain the highest possible level of health for all of our people.

"One important means of reaching this objective is the unification and coördination of health agencies at the Federal, State and local levels. The American Medical Association and the American Public Health Association have recommended the integration of health services under one Cabinet officer, preferably a Secretary of Health. A first step has already been made toward functional coördination by the creation of the Federal Security Agency.

"Functionally, the Agency is the beginning of a combined department of health, education and social welfare. These still remain separate departments of the Federal Government, although these same activities in the States are administered by a single agency.

"It is my firm belief that the first objective should be to coördinate the Federal health services. I fail to see how a national health program can be administered adequately with three Federal bureaus making grants for the control of different diseases and different groups of the population. Confusion and duplication is bound to result. Not the least confused will be the ultimate beneficiary, whose health problens are artificially segregated according to his age and the nature of his illness."

At this time when our public servants in the legislatures and in high governmental places seem to be so concerned about our health, it would also seem appropriate for those who really know the defects of medical service in their home localities to step out of their laissez-faire attitude, become vocal, and tell their public servants what the real needs are.

Let physicians take the leadership for which their education qualifies them, let them emerge from their conservative shells and demand sane and progressive action for better conditions of medical service, and let them educate all the people in their own communities and ask their coöperation in developing sound programs for American Health.

In the spirit of such an ambition let us face the dark hour of the world crisis. However horrible the European fratricide which stirs our emotions so deeply, let us keep our eyes open and our ears alert to our own opportunities for patriotic service. Let us not bury our heads in the sand. Let no one lull us to sleep with stories of security. Let us rise to our common responsibility with renewed energy.

Away back in the era of Babylonian culture, practitioners of healing arts were compelled to organize themselves for the protection of the people against the deceptions of charlatans and quacks. That was four thousand years ago. The need for rededication is upon us now.

The autocratic quackery of Hitler, Stalin and Mussolini must be resisted with all our strength.

Crystallizing American opinion into a determination to stop a Frankenstein would prevail because of the strength behind it.

Wishful thinking is feeble resistance. A Scotch minister prayed, "Oh, Lord, we pray thee to convert Hitler to the ways of civilized peace. If that cannot be, oh, Lord, we pray thee to take him to thyself."

Two thousand years ago medical thought was crystallized into adherence to the Hippocratic Oath. Its cohesive altruism has survived the rise and fall of many civilizations, until today the ideal of devotion to the service of all mankind is stronger than ever. Although I believe that this is peculiarly true of the American medical profession, which is always giving freely of its scientific effort to salvage the sick, I fear that we must have somehow failed in our feeble acceptance of our responsibility as citizens.

In the year 90 A.D. the Roman Empire extended from the English Channel to the Red Sea. A little man named Paul, 5 feet, 3 inches tall, was a prisoner in Rome. He was a giant ferment which stimulated the growth of Christianity into one of the potent forces which stopped the march of paganism. We need a St. Paul today.

A new generation of people has grown up in Germany which has been so saturated with paganistic ideologies that they have thrown aside the inhibitions of all religions except the irreligious nihilism of force which they worship and deify as "Welt Macht." Ruthlessly they are now marching over the democracies of the world, destroying all who do not conform to the brutal demands of their insane leader.

Germany is no longer the mecca for advanced education; the masters were driven out by the lash of paganism, medical education has lapsed below mediocrity. The medical course was cut to two years in 1939 and quacks and nature healers were legalized.

German scientists paralyzed by fear or starving in concentration camps, German youth hardened into determined machines concentrating upon a single objective, world domination—such things present a picture, all of the patterns of which are painted a lurid red.

Norway, Holland, Belgium, France—all betrayed by privileged visitors masquerading as friendly workers. How many such despicable criminals do you think may be now undermining the British Empire?

The United States of America has already been invaded. Advance columns have exerted subversive influences in every part of our country, have sabotaged the mind of youth and even boldly drilled in uniform.

Many of you remember that these organized movements have been actively going on in this country for the last 25 years.

Do you remember that a colored regiment was detailed to guard the Treasury of the United States in 1917 because it was the only one which was surely 100 per cent American?

Some of you have personal knowledge of the effects of this quarter of a century of foreign propaganda.

I have heard full approval of Hitler from an important retired American officer and within a few weeks the expression of a distinguished banker that he waits with impatience for an American dictator.

The ideals of popular government which were promoted by Washington, Jefferson and Lincoln are only remembered in political oratory. Petty dictators are already here. Our intelligentsia are lazily surrendering the domination of our great cities to organized gangsters. Shall we awake before it is too late?

It is very late to withdraw our hospitality from those foreign visitors who now enjoy the safety of asylum, but every effort should be made to convert them to an appreciation of the benefit of living in an advanced democracy. Failing in this they should be returned to the sources from which they came.

Every potential leader of public opinion in the United States must be mobilized to defend our country against ideas which are destroying the values of our civilization.

(*Continued on page 162*)

DIGITALIS: ITS ACTION AND USAGE*†

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Let us first direct our attention to the indications for the use of digitalis. What are the conditions in which this drug is likely to produce beneficial effects? It is my impression that the limitations of the usefulness of digitalis are not universally appreciated. Not all disorders of the heart are benefited by this drug. Among a case load of about 1,500 active patients with all manner of heart diseases at present in attendance at our cardiac clinics, only about 1 out of 7 is dependent upon digitalis. The fact that a patient has heart disease, a murmur, or enlargement of the heart is not sufficient ground for the use of this drug. Very large amounts of digitalis are still being dispensed for various structural disorders of the heart, although long experience has demonstrated that in these no therapeutic effects are to be expected. Only about 15 per cent of cardiac patients owe to the habitual use of digitalis the fact that they are able to carry on with a reasonable degree of comfort. The reputation of the drug is not enhanced, to say the least, by its use in the remaining 85 per cent of the cardiac population.

INDICATIONS FOR USE

There are two general indications for the use of digitalis: One is myocardial failure, and the other is a group of disorders of rhythm with or without myocardial failure, namely, auricular fibrillation, auricular flutter, paroxysmal tachycardia, ventricular premature contractions, and certain forms of heart-block with Adams-Stokes attacks. A full dose of digitalis will frequently terminate a paroxysm of auricular flutter or fibrillation, or ectopic auricular tachycardia. Attacks of syncope due to shifts between partial and complete heart-block are often satisfactorily controlled by the maintenance of complete block during the use of digitalis.

The form of heart failure in which digitalis is useful is the one which manifests itself clinically in congestion on the venous side of the circulation. Two main clinical varieties are distinguished. One is referred to as right ventricular failure. In this type the dominant factor is the failure of the right ventricle to drain adequately the veins of the systemic circulation. The chief manifestations are distended veins of the neck, enlarged liver, edema and serous effusions. The other is left ventricular failure, in which the main trouble is failure of the left ventricle to drain adequately the pulmonary veins. The chief clinical manifestations here are referable to the lungs; they are dyspnea, orthopnea, pulmonary râles and pulmonary edema. In one of the types of so-called left ventricular failure, the outstanding clinical phenomenon is the recurring paroxysm of cardiac asthma or pulmonary edema. Most cases of myocardial failure represent combinations of these two types.

There are several physiologic disorders of the circulation in which digitalis is of no value. While it slows the rate in auricular fibrillation, and the regular rhythm of patients with heart failure, it is quite ineffectual in slowing the rapid sinus rhythm of fever or toxic goiter. It has no place in the usual form of circulatory failure which occurs in the acute infections. It has been widely used in the treatment of the circulatory difficulties arising in the course of pneumonia, but the thoroughly controlled study of the Bellevue group[1] showed some years ago that it is here without value. The trouble in pneumonia is usually a form of peripheral circulatory failure rather than primary myocardial failure with venous congestion.

At this point mention should also be made of the practice which is still quite prevalent of endeavoring by means of digitalis to support the circulation pre- and postoperatively in a routine manner in surgical cases. This practice is without merit.

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* From the Department of Pharmacology, Cornell University Medical College.

† Read at the Annual Scientific Assembly of the Society, October 16, 1940.

In selecting patients for treatment with digitalis it is always well to keep clearly in mind the primary indication, myocardial failure with congestion of the pulmonary or systemic circuit. It is not always a simple matter, especially in the early stages, to ascertain whether failure with congestion is present, or clearly to distinguish this type of failure from peripheral circulatory failure; indeed the two may exist side by side. Nevertheless, judgment as to which is present is the deciding factor. If failure with congestion is present, it matters little whether the rhythm is regular or auricular fibrillation. Luten[2] and Marvin[3] presented compelling proof many years ago, and it has been amply confirmed, that equally dramatic effects may be obtained, although not so often, in failure with regular sinus rhythm as in that with auricular fibrillation.

CONTRAINDICATIONS

This brings us to another matter, namely, the question of contraindications to the use of digitalis. Several conditions have been mentioned in which digitalis is widely used but in which it is not useful. What I now wish to stress is that there are no conditions which *a priori* preclude the use of this drug when failure with congestion exists. It is often stated, but without satisfactory evidence, that digitalis is dangerous in the presence of active rheumatic carditis, hypertension, diphtheria, coronary sclerosis and acute coronary thrombosis. Its use in coronary artery disease is one of the most widely debated questions.[4] There is no reason for the use of digitalis in the vast majority of cases of coronary thrombosis. The disorder of circulatory function in coronary thrombosis involves a form of peripheral failure or shock, and digitalis is no more useful in this than in the peripheral failure of pneumonia, sepsis, or traumatic shock. However, if the patient has myocardial failure with congestion, with coronary thrombosis as a cause or as an accompanying condition, digitalis should be used. Experience affords strong support for such practice. This applies to coronary thrombosis in any stage, early or late. Experimental studies[5] indicate that animals become about 25 per cent more susceptible to digitalis after coronary occlusion. In view of this fact it is wise to employ somewhat smaller doses, about three fourths as much as otherwise, in the treatment of heart failure in patients with coronary thrombosis.

DOSAGE

The objective in the use of digitalis in the average adult patient with heart failure is twofold: first, to bring about recovery from the failure, and second, to maintain that state. We consider, therefore, two kinds of doses, the fully digitalizing dose and the maintenance dose. The adult patient in heart failure requires an average of about 25 grains (1.6 grams) of U.S.P. XI digitalis leaf to induce the full effects in 24 to 48 hours. Smaller amounts produce lesser effects, and larger amounts cause poisoning. Very large patients are apt to require somewhat more, and very small ones, somewhat less. Since there are no average patients, it is rarely wise to give the full amount at one time. For the more susceptible members of a group the average full dose is too much, and in them nausea or vomiting or toxic rhythms may be induced. It is a safer practice to give it in fractions, and one technic applicable to most patients is to give about 5 grains every 6 to 8 hours, and to use the effects as a guide. After the first 24 to 48 hours a daily maintenance dose is prescribed. The amount varies and is determined by the method of trial and error. The adult patient requires between $1\frac{1}{2}$ and 3 grains, which may be given in a single daily dose indefinitely. The practice of dividing the maintenance dose into two or three fractions daily is without significance.

CUMULATION AND ELIMINATION

Figure 1 shows a pharmacologic principle, diagrammatically, which is helpful in understanding the problem of digitalis dosage.

The upper portion represents the plan of digitalization by the large dose method which I have just outlined. The solid line represents the therapeutic effect; the broken line, the concentration of the drug in the body. In this instance the large dose of 30 grains produces the full effects in 24 to 48 hours. These effects are then maintained by maintaining the same concentration of drug. This is achieved by a daily dose equal to that which is excreted in a day. This turns out to be about 3 grains daily in most patients.

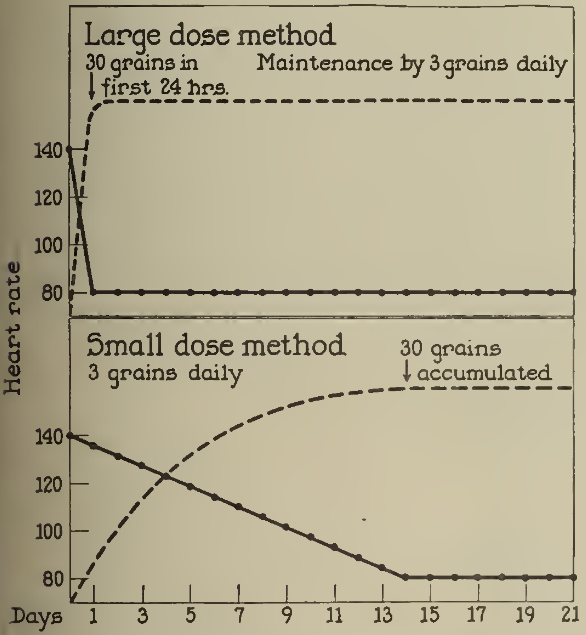

FIG. 1. Diagram comparing action on the heart rate with large dose method and small dose method of digitalization.

Suppose that one starts with this 3-grain daily dose without the large doses at first. Will it now be possible to digitalize fully? The answer is given in the lower part of this figure. While the patient can eliminate 3 grains daily when he has 30 grains in the body, he can only eliminate a small fraction of 3 grains a day when only 3 grains are present. The principle is that the animal organism does not eliminate a fixed amount of a drug in 24 hours but a percentage of the amount that is present.[6] This applies not only to digitalis but to other drugs as well. The daily repetition of the 3 grains, therefore, leads to cumulation. The cumulation is a self-limiting process, because, when 30 grains have accumulated, the patient is now able to eliminate the 3 grains which he receives daily, and no further cumulation takes place.

This is how it comes about that one can digitalize fully by the daily repetition of a small dose of 3 grains which, after the full effects appear, can be continued as the daily maintenance dose.

It used to be said that full digitalization cannot be produced by the so-called daily maintenance dose alone, because it is eliminated as fast as it is taken in. This viewpoint arose from the failure to take into account the fact, as I have just stated, that while the patient can eliminate 3 grains daily when 30 grains are present, he cannot eliminate 3 grains a day when only 3 grains are present.

Although this small dose method is sometimes desirable, one cannot recommend it for general use because it takes as long as a week or two to produce the full effects. I present it rather as a means of elucidating the current formulation of the mechanism of digitalis cumulation and elimination.

One has to call upon this principle in order to understand why it is that the so-called small "tonic dose" of digitalis often produces satisfactory therapeutic effects. The small dose of 3 grains is not a "tonic dose" in the real sense, for when it produces effects, it does so by reason of the fact that its daily repetition leads to accumulation of the drug which in the end provides the body with concentrations similar to the effective concentrations resulting from large doses given more rapidly.

Mechanism of Action

How digitalis acts to bring about the improvement in the circulation in patients with heart failure is a matter concerning which there is very little agreement. Time does not permit an exhaustive account of the many excellent studies on this subject. The mechanism has been formulated in various ways. One view holds that the heart failure subsides because the heart has been slowed by the drug. It is therefore a primary action on rate. Another view holds that digitalis diminishes the return flow to the heart, thereby relieving what is believed to be an overdistention of the heart muscle in heart failure. In this view the primary site of action is assumed to be the hepatic veins, by the constriction of which blood is dammed back in the liver. A third group of workers maintain that the primary action of digitalis is to shorten the diastolic length of the heart muscle. They also assume that in heart failure the heart muscle is overstretched and that by shortening the muscle the force of the systolic contraction is increased. In some recent studies[7] in our laboratory evidence has been obtained which, we believe, indicates that neither the rate theory, nor the liver theory, nor the tone theory, adequately explains the primary action of digitalis. In these it was shown that the heart is probably not overstretched in heart failure, that reducing the stretch upon the heart muscle is not likely to make it better but worse, and that increasing the stretch in the failing heart muscle increases the force of its contraction.

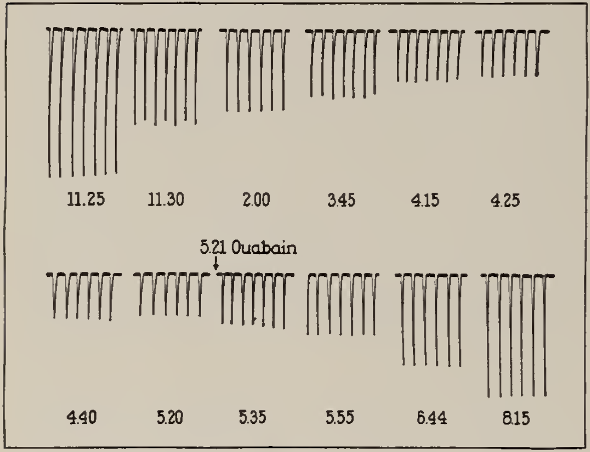

Fig. 2. Upper curves illustrate diminution in force of cardiac contraction under unfavorable circumstances and lower curves show restoration as the result of the use of ouabain.

Some of these experiments were made with the papillary muscle technic.[8] This little heart muscle of the cat was driven at a fixed rate, and the force of the contraction was transmitted through an isometric lever and recorded photographically.

Figure 2 shows the type of record obtained in these experiments. As the heart muscle was compelled to work under unfavorable circumstances, the force of the contraction became smaller and smaller. The administration of a digitalis glucoside in an amount which represents the concentration present after therapeutic doses in man produced rapid restoration of the systolic force of the heart. Figure 3 shows the results in such an experiment in which we recorded both the "tone" and the force of the systolic contraction. You will note that as fatigue set in, the force of the systolic contraction diminished, although no consistent changes in the "tone" took place. Furthermore, when the digitalis glucoside was administered the systolic force increased rapidly and markedly, although no change in the "tone" was in evidence. We conclude that digitalis does not exert a primary action on "tone" but a primary action on the

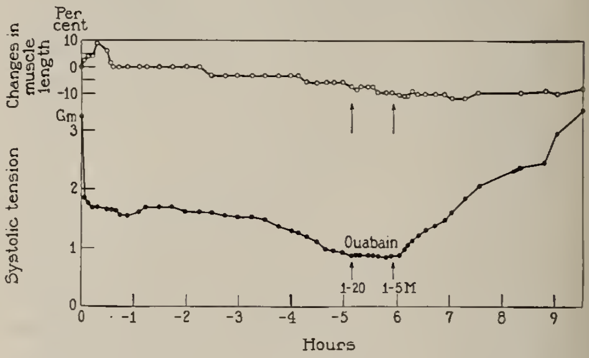

Fig. 3. Effect of ouabain on systolic force of fatigued heart, with very little effect upon "tone."

heart muscle directly to increase the systolic force of the heart, or the ability of the heart to lift a load, and that any changes in the "tone" of the heart, in the blood flow, the rate, or the venous pressure all represent secondary adjustments.

AURICULAR FIBRILLATION

The ventricular rate serves as the chief guide to the degree of digitalization in patients with auricular fibrillation. The customary procedure is to give enough digitalis to reduce the rate of the ventricles to about 70 a minute and to maintain it at that level. It is well known, however, that if this result is attained with the patient at complete physical rest, the rate in some cases mounts considerably when the patient is up and about. Furthermore, the rate may show wide fluctuations with moderate effort. Sir Thomas Lewis[9] stated that it was rarely possible to control the rate adequately in conditions of free exercise in these patients. During the past few years we have made some studies of the mechanism of slowing by digitalis in auricular fibrillation.[10, 11] We found what has long been known, that the ventricles may in this condition be slowed by digitalis in either of two ways: (1) through the vagus (vagal action) and (2) through a direct action on conduction which is independent of the vagus (extravagal action). Figure 4 shows how these two mechanisms are distinguished. Here are two patients with heart failure and auricular fibrillation who were digitalized and the rate reduced to about 70 a minute. In one, 2 mg. of atropine sulfate given intravenously abolished the slowing and in the other it had little effect. One was therefore vagal digitalization and the other extravagal. We learned, furthermore, that the vagal control can pass to the extravagal control if the dose is increased.

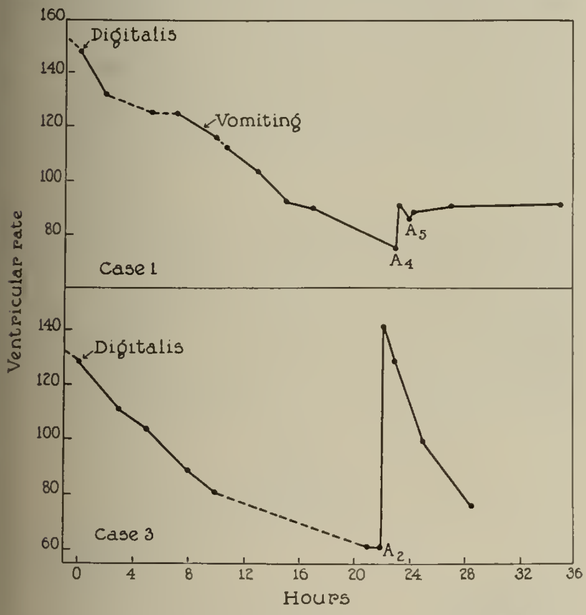

FIG. 4. Effect of atropine on ventricular rate in two cases of auricular fibrillation slowed by digitalization.

In a more recent study[12] we found that exercise to the limits of endurance has the same effect as atropine in these two stages of digitalis action. Table 1 shows such an experiment.

TABLE 1

Effect of atropine and physical exercise on ventricular rate after digitalis

DOSES OF DIGITALIS	RESTING VENTRICULAR RATE	MAXIMUM VENTRICULAR RATE AFTER	
		Atropine	Exercise
None............	115	175	180
Moderate........	80	170	180
Large............	90	100	110

It is possible, therefore, to control the exaggerated acceleration of the ventricles in free physical exercise in most patients with auricular fibrillation. If they are digitalized by the extravagal mechanism, physical exercise will rarely raise the rate above 100 a minute. To achieve this, larger doses of the drug are necessary, often digitalization to a point just short of minor toxic symptoms.

PREPARATIONS AND MODE OF ADMINISTRATION

In choosing a suitable preparation of digitalis it should be borne in mind that there is no satisfactory proof of qualitative differences among digitalis glucosides. The margin of safety between the therapeutic and toxic dose is not significantly different for the various members of the group,[13, 14] although contrary views are held.[15] It is frequently stated that strophanthin produces satisfactory effects when digitalis fails, but no good evidence exists that this is so, provided suitable doses of digitalis have been used.

Oral administration is the method of choice in the use of the digitalis preparations. The rectal route is useful in some instances in which the drug cannot be given orally, and in these cases similar doses are employed. Parenteral digitalis medication is not often necessary. There are indeed occasions when a patient in extremis may require more rapid digitalization than can be accomplished by mouth. There are also occasions when for various other reasons the gastrointestinal tract cannot be used. For parenteral use there are several very satisfactory preparations. There is a fairly large experience with crystalline strophanthin (ouabain) by intravenous injection. Full digitalization in the average individual can be accomplished by a total of 1 mg. given intravenously in 4 fractions of 0.25 mg. each at intervals of 1 hour. It is rarely wise to give more than a total of 1 mg. since, even if it has failed to induce full digitalization, this dose will have provided sufficient effect to make it possible to complete it by the oral use of digitalis. Lanatoside C is another purified glucoside which has been developed in recent years, and in a study[16] which we have made it proved to be a very satisfactory preparation for intravenous administration. The full digitalizing dose of lanatoside C by intravenous injection is from 1.5 to 2.0 mg., which may be given in doses of 0.5 mg. each at half-hourly intervals. There are other purified principles and mixtures of glucosides that are widely used by parenteral administration.

It is the general experience that digitalis leaf meets the requirements of digitalis therapy as satisfactorily as any of the specialties in the form of digitalis extracts or mixtures for oral administration.

There are a few matters concerning digitalis leaf or the tincture, however, which require special attention, because digitalis preparations show wide differences in their composition and potency.

A point that is not generally known is that digitalis of the present Pharmacopeia is about 50 per cent stronger than digitalis of the previous Pharmacopeia. This means that for every 15 minims of the tincture of digitalis that we prescribed before 1936, we now require only 10 minims of the tincture, and for every 1.5 grains of digitalis leaf that we prescribed prior to 1936, we now require only 1 grain of digitalis leaf.

The U.S.P. digitalis is standardized by the frog method in accordance with the official technic described in the Pharmacopeia. We must not assume, however, that all U.S.P. digitalis is of uniform potency. The Pharmacopeia itself allows a 40 per cent range between the weakest and the strongest preparation.

TABLE 2

Potency of tinctures of digitalis (U.S.P. XI)

SPECIMEN	CAT UNIT POTENCY C.C. OF TINCTURE
1. John Wyeth	0.35
2a. Parke Davis	0.36
2b. Parke Davis	0.46
3. Squibb	0.58
4a. Digitol (Mulford)	0.58
4b. Digitol (Mulford)	0.86
5. Lilly	0.60
6. "Tr. Digitalis U.S.P. XI"	0.96

Actually, preparations of digitalis on the market show a much wider variation. Table 2 shows how wide such variations can be. We assayed several of the popular brands of the tincture of digitalis by the cat method. We found the strongest preparation three times as potent as the weakest, a difference of 300 per cent, although they are all labeled U.S.P. XI.

In the case of a patient who is seriously ill and requires rapid digitalization by very large doses, it is a matter of great importance whether the digitalis is one third as strong or three times as strong as we expect it to be. Of course, when we divide the full dose into fractions, the marked variation in the potency of preparations is not quite so serious, because in such a case one is guided, in giving more or less of the drug, by the development of symptoms and effects.

I see no satisfactory solution at the present time for the difficulties arising from the wide variations in the potency of preparations of digitalis leaf. We shall be better off, however, if we are at least aware that such variations exist.

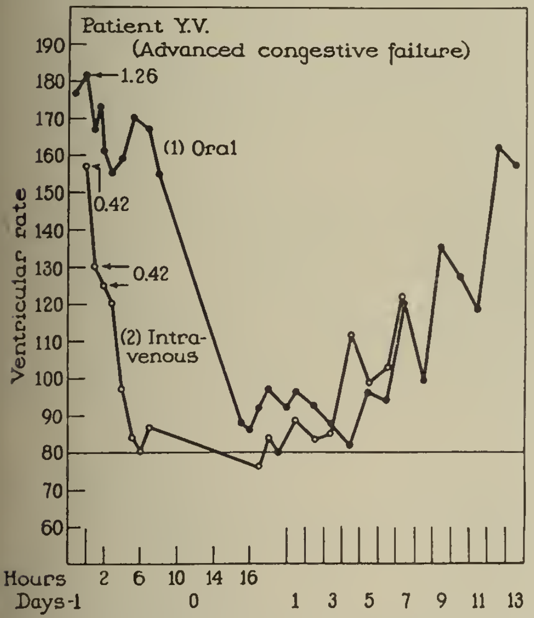

FIG. 5. Comparative effects of "Digitaline Nativelle" by oral and intravenous administration.

I might add that the New York Heart Association has solved this problem for itself by purchasing a large batch of digitalis leaf, enough to last a few years. This insures uniformity for at least that period of time for the sixty member clinics of the Association, which take care of about 20,000 cardiac patients.

The real solution of the problem lies in the discovery of purified digitalis glucosides which can be obtained in crystals of uniform strength, which will not require biologic standardization. During the past year we have made some studies along these lines.[17] The results offer considerable promise. The digitoxin-like materials obtained from digitalis possess extremely valuable properties. We have now had a fairly extensive clinical experience with one of these in the form of the crystalline material known as "Digitaline Nativelle." In animal experiments it is absorbed almost as well from the gastrointestinal tract as a dose of strychnine. These experiments in animals show that a dose is almost as effective by oral administration as by intravenous injection. We now have observations which show that this is also true in man (fig. 5). I believe it is not generally appreciated that only about 15 per cent of the potent substances in digitalis is absorbed from the gastrointestinal tract, whereas practically 100 per cent of this digitoxin-like material is absorbed from the gastrointestinal tract.[17] It requires only 3 to 4 cat units of "Digitaline Nativelle" to produce full digitalization by oral administration as against the usual dose of 15 to 20 cat units of digitalis leaf or tincture[17] (fig. 5).

The average full therapeutic dose of "Digitaline Nativelle" by oral administration is approximately 1.25 mg. In a series of controlled experiments in patients with auricular fibrillation and heart failure it was found that such a dose will reduce the ventricular rate to normal levels of 60 to 80 a minute in 6 to 8 hours, in one instance, in 3½ hours. The daily maintenance dose lies between 0.1 and 0.2 mg. One can effectively digitalize a patient without the initial large dose but by the administration of 0.2 mg. daily. This will produce the full effects within a week or ten days, and between 0.1 and 0.2 mg. may then be continued as the daily maintenance dose.

The indications are that the development of digitalis therapy with purified glucosides is well on its way. There are available glucosides that are rapidly and almost completely absorbed from the gastrointestinal tract which can be isolated with reasonable uniformity.

(Continued on page 162)

OPERATIVE RISKS IN CARDIAC PATIENTS*

William S. Love, Jr., M.D., F.A.C.P.

Associate Professor of Medicine, University of Maryland School of Medicine

The medical man not infrequently is asked by his surgical colleagues to evaluate the cardiac status of their patients and to advise whether or not they are suitable risks for operative procedures. Often the reason for such consultation has been the reporting of a heart murmur or moderate elevation of blood pressure by the attending house officer. Fortunately, often there is no organic heart disease present, or the blood pressure elevation is found to be due to the nervous strain under which the patient is laboring at the moment. Obviously, under such circumstances, the risk of operation is no greater than the usual one. Psychoneurotic illnesses with cardiac symptoms can be placed in the same category. Here, the problem is one of correct diagnosis.

The problem of heart disease that simulates a surgical condition is also a diagnostic one. Unfortunately, all too frequently the medical man is not called upon until the appendix or gall bladder, for example, has been investigated surgically and found to be normal. Needless to say, a laparotomy does not help a patient suffering a coronary thrombosis whose symptoms have been largely abdominal. The pain of acute pericarditis may be referred to the abdomen, and twice have I been asked to see children who had been explored because of the attacks of abdominal pain, with or without vomiting, that occur in rheumatic disease. I have seen one patient with mitral stenosis in whom the onset of auricular fibrillation was attended by acute right heart failure, and pain and tenderness over the liver; he had been sent to the hospital with a diagnosis of acute cholecystitis; medical consultation was requested because of the irregular pulse. The arrhythmia spontaneously stopped in 24 hours, and the patient was spared. an unnecessary operation. Thus, one risk run by a cardiac patient is that of uncalled-for operative procedures because of failure to recognize the true nature of his illness.

More commonly, however, the medical man has to decide whether operative procedures are justified in patients in whom some form of heart disease is all to obvious. There are several questions that the physician should seek to answer:

First, is the surgical condition so grave that, no matter what the risk, an operation must be performed? Acute conditions such as appendicitis, cholecystitis and peritonitis make up the majority of instances in this group. No rules can be specified for arriving at this decision, and the medical man must often be guided by the surgeon.

Second, can the cardiac condition be improved by delaying the operation when it is not immediately urgent? This again is an individual problem with each case. Obviously, patients in congestive heart failure should not be operated upon when surgery can be deferred to a later date.

Third, in those conditions in which operation is not imperative, will surgical intervention be worth while? Two types of problem arise here. In some cases, the team of physician and surgeon will have to decide if the gain in comfort on the part of the patient will balance the risk. In other instances, it must be frankly faced that the life expectancy of the patient with heart disease may not be such as to warrant operative interference. For example, I was recently asked to see a woman, 40 years old, who had a fibroid of the uterus. She had mitral stenosis and aortic insufficiency, a very large heart, and had had auricular fibrillation for two years. During those two years there had been two breaks in compensation, and the patient was very limited in her capacity for exertion, being really a semi-invalid. I advised against operation on the grounds that her life expectancy did not warrant it, and that radium or X-ray treatment would probably control the tumor growth. Nevertheless, she was operated upon, and a fibroid uterus about the size of an orange was removed. The patient made an uneventful recovery from the surgical procedure. I still believe that the operation was not justified in this case.

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* Read at the Annual Scientific Assembly of the Society, October 17, 1940.

The prevalent opinion is that heart patients withstand surgical procedures very well. On the whole, this is true, and I doubt if the mortality figures in young well compensated cardiacs who undergo operations are much if any worse than those for the disease concerned. On the other hand, taken as a group, cardiacs offer a greater risk than normal patients. I have reviewed the heart cases that have undergone surgical procedures at the University Hospital during the past 18 months. I have included only those in which the operation could be classified as major, and I have not included obstetrical cases, of which there was a very considerable number. There were, then, 78 patients with heart disease who submitted to some major operation during this time. Of these 78 patients, 14 died, thus giving a mortality rate of 18 per cent for the series.

Certain interesting facts appear upon closer inspection of this group of patients. None with definite syphilitic heart disease were operated upon during this time; those in whom the diagnosis of simple aortitis was made are not included in these figures. Four patients with congenital heart disease were operated upon, but, since none of the surgical procedures involved could be considered major, they are not included. None of these patients died.

The highest mortality rate was found in the arteriosclerotic group. The average age of this group was 68 years, and there were 24 patients, of whom 7 died, thus giving a mortality rate of 29 per cent. The cause of death was pneumonia in 3 instances, pulmonary infarct in 1, septicemia in 1, surgical shock in 1, and in one it was not determined.

There were 29 patients with hypertension and some degree of arteriosclerosis who were operated upon, and of these 4 died, a mortality rate of 13.8 per cent. Two of these patients died following craniotomies, performed in one instance for subdural hemorrhage and in the second for a brain tumor. A third patient died following a hysterectomy; autopsy revealed an advanced nephrosclerosis. In all probability, had this patient received an adequate medical survey, operation would not have been elected. If we eliminate these 3 cases, the mortality rate falls to 3.4 per cent. The average age of these patients was 49 years.

There were 9 cases of hyperthyroidism in which the disease was accompanied by definite cardiac enlargement, hypertension or arteriosclerosis, or both. The average age of this group was 53.6 years; 22 per cent (2) died following subtotal thyroidectomy. This is too small a series to be statistically valuable; however, it is well recognized that when cardiac disease is obvious in patients with hyperthyroidism, the prognosis is graver than when such a complication does not exist.

Sixteen patients with rheumatic cardiovascular disease were included, and of these only 1 died following operation. This patient had mitral stenosis and auricular fibrillation, and a mid-thigh amputation of the leg was necessitated because of embolism to the femoral artery. It seems fairly obvious that operative procedures are borne well by these patients.

At first glance, it would seem that the operative mortality (18 per cent) of this total series was quite high. However, more detailed study reveals that most deaths occurred in the aged, or in those in whom the illness requiring operation was of a grave nature.

Cardiac disturbances or accidents may also occur in those in whom heart disease was not recognized previous to operation. Coronary thrombosis is reported to occur subsequent to surgical procedures. I have not seen such a case, and in those instances which I have studied where this condition was suspected, pulmonary embolism has proved to be the correct diagnosis. It must be remembered that the lodgment of an embolus in the lung can produce symptoms very similar to those of coronary occlusion, and even the electrocardiogram may be misleading at first glance. I need not point out that arrhythmias may occur postoperatively, especially in cases of hyperthyroidism, and also, at times, in other patients.

There is another group of patients to be considered briefly, namely, those in whom the operative procedure is directed primarily at the heart. I have had no experience in trying to establish collateral circulation in cases of coronary sclerosis, and refer you to Beck's work in this connection. In the past several years we have had 4 cases of stab wound of the heart in which pericardiotomy and cardiorrhaphy were performed. All of these patients recovered. Another case of hemopericardium following a stab wound recovered without operation. This patient was admitted 5 days after the injury and presented symptoms of tamponade with edema of the lower extremities. One patient died of purulent pericarditis following such trauma, without operation. Dr. Arthur Shipley, of the University of Maryland, has operated upon 13 cases of purulent pericarditis. The mortality rate is high, being in this series 46 per cent. However, the death rate in patients not operated upon is variously stated as being from 70 to 100 per cent. It is interesting that 5 of the 6 patients who died also had empyema; this seems to be a fatal combination. Chemotherapeutic measures will probably make this complication of infections much rarer.

I have had surgeons attempt to strip the pericardium in 2 cases of constrictive pericarditis. One died on the table, the other, several months after the operation. The mortality for this procedure is very high, running between 60 and 70 per cent. However, in these patients we are dealing with a desperate situation, and the remedy is almost as desperate.

I shall not consider in this discussion the various operations performed for the relief of hypertension.

I suppose I should say something about anesthesia. Every man develops his own preferences in this matter. I personally prefer a basal anesthesia of avertin, followed by what ether may be necessary. Cardiacs take ether very well, and its greatest dangers are postoperative pulmonary complications. These can be minimized by the judicious use of CO_2 by periodic inhalations for 24 hours postoperatively, and by early movement of the patient. Spinal anesthesia is too frequently accompanied by a serious drop in the blood pressure, and when ephedrine and adrenalin are used to prevent such a happening, arrhythmias are prone to occur, especially in the elderly. However, the use of spinal anesthesia in heavy solution has made it possible to localize its effect and avoid shock. I have had it used several times recently in elderly patients without ill effect. For prostatic operations, it is probably the anesthesia of choice.

Pulmonary complications, such as pneumonia and embolism, are the commonest causes of death. Other complicating factors of operative procedures, such as septicemia, peritonitis in abdominal operations, etc., are represented in this series. The cardiac status of the patient does not demonstrably influence their occurrence.

In conclusion, the surgeon and internist should work as a team in deciding when cardiac patients should be operated upon, and whether enough is to be gained by surgery to justify the risk. When the age of the patient and the type of operation performed are taken into consideration, cardiac patients bear surgical procedures surprisingly well.

ADIE'S SYNDROME IN TWINS*

A PRELIMINARY REPORT

William H. Hough, M.D.

Washington

This report of two cases of Adie's syndrome in twins is a preliminary one. Sufficient investigations have been made to establish the diagnosis definitely, but further research is necessary for scientific purposes and also to determine the effect of such treatment as may be indicated. When the cases are completed they will be reported by Dr. William Thornwall Davis and his associates, most appropriately before a neurologic or an ophthalmologic society or in a specialized journal, since there are involved several factors of specialized interest. This report deals with the practical aspect of the condition, and it was deemed more appropriate to present it to this Society in order to impress certain facts on the mind of the general medical man as well as the specialist, because, as most of the writers on the subject have emphasized, the condition is usually diagnosed tabes dorsalis and in many instances has been treated for that disease with all of the social, economic and psychologic disturbances that such a course entails. Such a course is particularly unfortunate, since Adie's syndrome is a benign condition and is not of syphilitic etiology. It has been variously diagnosed and variously classified, but for the purpose of this report the complete form is characterized by a false or true Argyll-Robertson pupil and absence of some or all of the tendon reflexes. The incomplete form is divided into several subdivisions and will not be discussed here. The true Argyll-Robertson pupil is seldom present, so it is important to differentiate the true from the false or tonic pupil. For practical purposes it may be stated that the pupillary abnormalities observed in the complete form of Adie's syndrome differ from those of the true Argyll-Robertson pupil as follows:

TONIC PUPIL	ARGYLL-ROBERTSON PUPIL
1. Unilateral, 80 per cent	1. Bilateral, 95 per cent
2. Convergence reaction:	2. Convergence reaction:
(a) Slow gradual contraction	(a) Prompt contraction
(b) Slow gradual dilation	(b) Prompt dilation
3. Accommodation reaction: Ciliary muscle may contract and relax slowly	3. Accommodation reaction: Ciliary muscle not affected
4. Light reaction: (a) Slow contraction (b) Slow dilation	4. Light reaction: Absent
5. Dilates normally with atropine	5. Dilates poorly with atropine
6. Normal or semidilated	6. Miotic

The two cases here reported are the complete form. Cases of this syndrome do not show any of the other signs or symptoms of tabes dorsalis, so that, if the condition is kept in mind and certain observations are made, the diagnosis is not difficult. Of course, tabes dorsalis is quite variable in its manifestations, atypical cases being frequently observed, and, furthermore, cases of tabes dorsalis sometimes develop to a certain point and stop for long periods for some unknown reason. Such cases have the appearance of being quite benign for long periods or indefinitely and are generally spoken of as tabes imperfecta. As is well known, a diagnosis of tabes dorsalis is generally ascertained by the assistance furnished from the examination of the spinal fluid. But here there is a point which should be emphasized strongly and which I have seen only once referred to in the twelve articles that I have reviewed relative to Adie's syndrome; namely, that sometimes the spinal fluid is found to be normal in every respect in some cases of true tabes dorsalis of syphilitic etiology. It is as important not to diagnose a case of tabes dorsalis Adie's syndrome as it is not to diagnose a case of Adie's syndrome tabes dorsalis. In most of the articles on the subject of Adie's syndrome, one not acquainted with the serology of syphilis receives the impression that a negative serology eliminates syphilis. Furthermore, no less an authority than Professor Edwin Bramwell[1] of London states, "Any doubt which may have previously existed was dissipated by the application of the serologic test in these cases." Such statements are incorrect and unfortunate, and they have led probably to doubt concerning the correctness of the diagnosis in some cases of Adie's syndrome. The condition has been referred to as the myotonic pupil with absent tendon reflexes, the pseudo Argyll-Robertson pupil with absent tendon reflexes, a benign disorder simulating tabes dorsalis, etc.

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* Read before the Society, October 30, 1940.

Time will not permit reference to the history of the condition except to say that cases were reported by a number of different writers long before Adie[2, 3] described it in more detail in 1931 and again in 1932. It was referred to by three different authors including Nonne[4] in 1902. It was probably known long before that. Most of the reports have been from England and Germany, some from France and several by Jelliffe,[5, 6] Kennedy[7] and others from this country.

The frequency of the condition is not definitely known. Most authorities believe that it is much more common than is generally supposed, since many cases are unrecognized or diagnosed as tabes dorsalis. In reference to this point, Adie[2] stated in his first paper, in which he reported in detail 6 cases, that 5 of them were observed within a period of a few weeks at the Royal London Ophthalmic Hospital. Without investigating the matter at length, I found 60 cases in the literature. One article contains no less than 36 references to the subject in addition to 9 indirectly related to it, and, furthermore, this same article refers to other cases reported in the European literature that are not included in the list of references. No doubt some cases recognized have not been reported. Indeed, I would not have reported these cases if they had not been in twins. I know, personally, of but 2 other cases aside from the 2 here reported. One of these was recognized last March at the Mt. Alto Diagnostic Center here by Dr. Antoine Schneider and the other was a case referred to me by an ophthalmologist. It was one of unilateral Argyll-Robertson pupil in a young woman. The blood and spinal fluid were normal. The case was thought to be atypical tabes dorsalis, but treatment was not advised because the case was thought to be in a latent state. So the indications are that it is not a very uncommon condition, but it is quite apparent that it is one commonly unrecognized or overlooked, since it is benign and often symptomless. It is very clear from the many cases reported that, when recognized, it is usually misdiagnosed as neurosyphilis. It is most probably not a disease entity, but it is just as important and serves as useful a purpose to recognize Adie's syndrome as it is to recognize Adams-Stokes syndrome or Brown-Séquard syndrome, etc. The condition has been found to occur more frequently in females than males in the ratio of 4 or 5 to 1. Most of the cases reported are in young adults, but cases have been found in early life and in childhood and a few after middle life. The cause of the condition is unknown. It has been attributed to many different conditions, both organic and indirectly functional (Jelliffe[5, 6]). It has been known to occur in more than one member of the same family, and that is another reason why its occurrence in twins should be recorded, since if these are identical twins it may be, in these cases at least, truly hereditary, i.e., a recessive characteristic. Rudolf[8] reports an instance of the condition in mother and daughter. Dressler[9] found it in 3 sisters and Bailey[10] in a brother and sister.

This is the first report in twins so far as known. The points in favor of these twins being identical are: They are of the same sex, were born within 20 minutes to half an hour, were approximately the same size at birth, were of identical appearance, and both are right-handed. There are no points against them being identical. From what I am able to learn from the literature and from information obtained from the Federal Bureau of Investigation, it is useless to take the fingerprints, handprints or footprints of these patients, since the probability of any of the prints being identical is about 1 in 6,000,000, and if they were found identical this would not settle the matter with certainty. If it could be definitely established that these 2 cases are truly hereditary, it does not necessarily follow that all cases now included under the term Adie's syndrome are hereditary, since there is strong evidence that there are other causative factors. When we understand what is known of its pathologic physiology, it seems reasonable to assume that there may be more than one etiologic factor.

REPORT OF CASES

These twins are white females, 22 years of age. They were reared in poor circumstances and in a poor environment. Briefly, the family history is as follows. The mother died of a "stroke" at 53 years of age. The father died when about 35 years of age of "kidney trouble and complications." Three brothers and 1 sister all older than the patients are dead. One brother died when 3 months old, cause unknown. One brother died when 2 weeks old, cause unknown. One brother died of a "stroke" at 26 years of age. One sister died when 18 months old, cause unknown. One older sister is living and in good health. She is 15 months older than the patients and has a 3-year-old boy who has a right hemiplegia. The mother states that he developed this hemiplegia when about 6 months of age. One of these twins, several months ago, suffered an abortion of a twin pregnancy. These twins were aborted 2 months apart. This very unsound family history led me at once to suspect familial syphilis, and I used every means possible to exclude it. The more one studies this family the more curious facts one finds. I have not told you half of the story. I think we can definitely eliminate syphilis, multiple sclerosis, encephalitis, polyneuritis, and any definite psychoneurosis, etc. Early in the investigation, I was led to suspect Adie's syndrome because of the unusual pupillary findings and the absence of reflexes without the usual accompanying findings of tabes dorsalis.

Twin no. 1, Mrs. J. D. C., referred by Dr. Davis, stated that she had been in good health all her life, but had had some headache occasionally and pain in the back during menstruation. She gave as her chief complaint "eye trouble," blurring of vision. She said she had a severe headache that day but that she seldom had headaches aside from the time of her period. She also complained of "growing pains" in her legs when she stood for long at a time. She insisted that the pains were not sharp pains but more like dull aches.

The patient was 22 years of age, and Dr. Davis's report stated that she had been under his observation since she was 7 years old and had had inequality of the pupils since she was 14 years old. Although the family history was quite suggestive of syphilis, the patient presented no adenopathy, saddle-nose, mulberry molar, scaphoid scapula, tibial abnormality, or any other evidence of prenatal syphilis. The pupils were unequal, the right being much larger than the left. Neither reacted to light but slightly and slowly to accommodation. The peripheral fields were normal, and there was possibly slight enlargement of the left blind spot. The Romberg was negative. The gait was not impaired. There was no incoördination of the upper or lower extremities. The finger-to-finger, finger-to-nose and knee-to-heel tests were accurately done. The right biceps and triceps and radial-periosteal reflexes were normal. The left biceps and radial-periosteal reflexes were normal. The left triceps reflex was absent. Both knee jerks and ankle jerks were entirely absent. All of the abdominal reflexes were present and normal. There was no clonus, Babinski or other abnormal reflex. The sense of position of both upper and lower extremities was normal. The vibratory sense was normal throughout, as was also the sense of heat and cold, cotton-wool touch and pain. There was no dermatographia or hyperhidrosis. The skin appeared to be normal. The spinal fluid examination was as follows: clear-colorless; pressure normal; protein content not increased; 2 cells per cu. mm. (small lymphocytes); Wassermann reaction negative in all dilutions; gold chloride 0000000000. Wassermann and Kahn reactions with the blood serum were negative.

When first examined September 9, 1940 the patient showed no emotional instability. When again examined at her home just before the spinal puncture was made, she appeared a little apprehensive and uneasy. Her sister stated that she had always been quite stable but that they were all quite upset when their mother died last March. As near as could be determined, there was no undue emotional disturbance at that time. From the two interviews it did not appear that this patient was a definitely psychoneurotic type of individual, and she did not show any psychotic manifestations.

This case did not present a clinical picture of tabes dorsalis. Atypical juvenile tabes dorsalis was carefully considered. The laboratory findings, both blood and spinal fluid, were negative for syphilis. (In no case does this positively exclude the disease.) The diagnosis was Adie's syndrome.

Twin no. 2, Mrs. J. A. P., was referred to Drs. Davis and Sheppard for study. Mrs. P. had been pregnant several months before. She lost one twin when she was 3 months' pregnant and the other when she was 5 months' pregnant. Neurologic examination showed: station and gait normal; Romberg negative; no incoordination of either upper or lower extremities; no tremors or speech defects; right pupil, larger than the left, did not react to light but reacted fairly well to accommodation; the left pupil, of medium size, reacted to both light and accommodation; right knee jerk absent, left quite active; both ankle jerks absent; no clonus, Babinski or other abnormal reflex; vibratory sense normal; all other forms of sensibility normal; abdominal reflexes present; strength of abdominal muscles normal. There was no glandular enlargement and no developmental defects. The diagnosis was Adie's syndrome.

Summary of both cases.—These 22-year-old twins have pupillary abnormalities of many years' duration. In each case the right pupil is involved. The pupillary abnormalities correspond to the pupillary abnormalities observed in Adie's syndrome. Some of the tendon reflexes are definitely absent in both, and there is no evidence whatever of neurosyphilis.

There are many points of both practical and scientific interest which have not been touched upon in this report. Suffice it to say in conclusion, that this preliminary report of two cases of Adie's syndrome in almost certainly identical twins is made particularly for the purpose of calling the condition to the attention of all medical practitioners who undertake to diagnose syphilis of the central nervous system, especially tabes dorsalis.

N.B. Since this report was made to the Medical Society, another case has been recorded by McKinney and Frocht.[11]

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Virus of new lung disease found by international coöperation. Discussing a recent announcement that J. M. Weir, M.D. and F. L. Horsfall, M.D., of the International Health Laboratories, New York, have been able by means of research carried on in New York and the British West Indies to isolate and identify the specific virus of the new type of lung disease known as "acute pneumonitis," *The Journal of the American Medical Association* for March 22, 1941, says that "aside from its epidemiologic importance the work of the two men is noteworthy and may long serve as a model of speed and effectiveness in international medical research, an inspiring example of preparedness for future epidemiologic emergencies."

Epidemics of the disease, since it was first described five years ago, "have been reported with increasing frequency in a half dozen American states as well as in England and France, from which it is apparent that the disease can assume pandemic [widely distributed] proportions," according to *The Journal.*

It is characterized by a remarkably high sickness rate and in some institutions or localities over 50 per cent of all persons have contracted the disease. No deaths have been reported so far in uncomplicated cases.

"The apparent recent increase in the frequency of this disease and its tendency to become pandemic rendered it of sufficient importance to warrant vigorous attempts to determine the causative agent," *The Journal* says.

About a year ago Drs. Weir and Horsfall attempted to infect all of the usual laboratory animals with the disease but without success. In the hope of finding a susceptible animal, it was finally decided to try the mongoose, an animal available in abundance in the Caribbean islands but whose importation to the United States is prohibited. By modern methods of transportation and communication, however, it was found feasible to divide the work between the New York laboratory and the British Tuberculosis Research Association at Kingston, Jamaica. Material from victims of the disease in New York was transported to Kingston and material from the mongoose was sent to New York for analysis.

"Studies of natural methods of infection have shown that the experimental virus disease in the mongoose is readily spread by contact," *The Journal* says. "The evidence therefore seems complete that the mongoose infecting virus is the cause of the current incipient pandemic of acute pneumonitis."

CLINICO-PATHOLOGIC CONFERENCE*

THE DEPARTMENT OF MEDICINE, GALLINGER MUNICIPAL HOSPITAL

CHRONIC PYLORIC OBSTRUCTION OF MANY YEARS' STANDING CULMINATING IN A SEVERE CRISIS

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AND

Donat P. Cyr, M.D.

Senior Resident in Medicine, Georgetown Service, Gallinger Municipal Hospital

October 31, 1940

Dr. Yater: Dr. Harry Feldman, Junior Resident on Ward N, will present the case of A. D., who lies here on this carriage.

Dr. Harry Feldman: This patient is a colored male, 30 years of age, who was admitted to the medical ward of Gallinger Municipal Hospital on October 27, 1940 at 8 o'clock in the evening. No history was obtainable, since the patient was extremely weak, semicomatose, confused, and disoriented. His brother stated that for 3 days prior to admission the patient had been bedridden because of great weakness and that he complained of epigastric pain and vomited frequently. No further details were obtainable on admission.

On physical examination the patient was found to be a well-developed and well-nourished colored male who appeared extremely weak. He was aroused with difficulty and after slight exertion lapsed into a semicomatose condition. His temperature was 97°F. by mouth, the pulse rate was 100 and the rhythm regular, and the blood pressure was 140 systolic and 60 diastolic. His skin and tongue were dry, and the lips and fingernail beds were bright red. No abnormal skin pigmentation was noted. Examination of the head and neck showed no abnormalities. His lung fields were clear to percussion and auscultation. The heart was normal in size, the rhythm was regular, and there were no murmurs. The abdomen was soft and well rounded. There was no rigidity or tenderness; no masses were felt; and the liver, spleen and kidneys were not palpable. There was a succussion splash in the left upper quadrant. Peristalsis was active. Rectal examination was negative. The muscular system presented no abnormalities except extreme generalized muscular weakness.

The preliminary laboratory studies on admission were as follows:

Urinalysis—essentially negative
Red blood cell count—7,000,000 per cu. mm. of blood
White blood cell count—11,250 per cu. mm., with a normal differential
Blood Kahn test—negative
Blood sugar—87 mg. per 100 c.c. of blood
Blood urea nitrogen—20 mg. per 100 c.c. of blood
Blood plasma chlorides—198 mg. per 100 c.c. of blood

On the day after admission this patient's relatives volunteered the information that he had been 'troubled with low blood pressure for 4 years.' They also stated that 3 weeks before admission the patient had visited a local clinic because of epigastric pain. Since that time the patient had grown progressively weaker to the point where he could not walk up one flight of stairs unassisted, and for 3 days the epigastric pain had been more severe and vomiting more frequent.

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* These conferences are held under the chairmanship of the Head of the Department of Medicine, Dr. Wallace M. Yater, every Thursday from 2 to 4 p.m. Cases of particular interest, or those presenting diagnostic problems, are presented and discussed. This is a resumé of the discussion of such a case.

During the first 2 days of hospitalization the patient's condition remained essentially unchanged. He remained very weak and stuporous and took very little nourishment by mouth. In view of the facts presented above a provisional diagnosis of Addisonian crisis was made and the patient was treated accordingly. He received copious quantities of parenteral glucose-saline-citrate solution and large doses of adrenal cortical extract. On the third hospital day he seemed to be more alert and to be getting stronger. His temperature was still normal, the pulse rate varied between 70 and 90, and the blood pressure was 135 systolic and 60 diastolic. His red blood count was now 3,590,000. The blood plasma chlorides were 314 on the second day and 346 mg. per cent on the third day. The succussion splash was still present in the left upper quadrant, and visible gastric peristaltic waves were observed at this time. The stomach was drained, and 1,800 c.c. of greenish watery fluid was obtained. This procedure was repeated on subsequent days and each time large quantities of watery fluid were removed from the stomach with disappearance of the succussion splash.

Today, 4 days after admission, the patient shows definite improvement, is more alert, mentally coherent, and feels stronger.

Dr. Yater: Will you give us your opinion of this case, Dr. Feldman?

Dr. Feldman: This patient presented a rather interesting problem. The man was obviously in a critical condition on admission several nights ago. The very meager history did not help us to solve this perplexing problem of diagnosis. Our examination was essentially negative except for the dry skin and the succussion splash in the upper part of the abdomen. Alcoholism was suspected, but that was strongly denied by his brother and later by other informants. In spite of the fact that his blood pressure was normal, and even in the absence of skin pigmentation, we favored the tentative diagnosis of Addisonian crisis. I must confess that we were perhaps influenced by the great similarity between this patient and another colored male who was admitted on our ward 2 weeks ago. The latter presented nothing of significance on physical examination and yet he looked as though he simply was too weak to live. On pathologic examination the cortex of both adrenal glands was found to be completely destroyed by tuberculous caseation.

Our initial 'hunch' seemed to be corroborated by the first laboratory report on the blood plasma chlorides (198 mg. per cent). Our pride in making this diagnosis was further boosted by the slow but very satisfactory response which the patient has shown since admission on a regimen of parenteral salt-glucose-citrate solution and adrenal cortical extract.

However, during the past 2 days his stomach has had to be drained repeatedly in spite of the fact that he has taken no fluids by mouth. This watery stomach content was found to have a chloride level about 3 times that of the blood. The reappearance of the succussion splash before and its disappearance after gastric drainage, the additional history obtained from friends and from the patient himself, have all raised our index of suspicion and have directed our attention to the gastrointestinal tract as the possible source of this man's trouble.

While it may be that we are not dealing with a true case of Addison's disease, nevertheless we have been treating this man for symptoms referable to a marked decrease in blood chlorides, hemoconcentration and dehydration as a lifesaving measure. This treatment thus far has been of far greater importance than the exact diagnosis. I feel that the patient's response from what was obviously impending death justifies what we have done so far. We await with interest the opportunity to study this man's gastrointestinal tract when his general state warrants.

DR. ALBERT SULLIVAN (Chief Resident Physician): In view of the present developments mentioned by Dr. Feldman it is very likely that the man has a greatly dilated stomach and probably pyloric obstruction. However, I have never seen a case with such low plasma chlorides resulting from pyloric obstruction and vomiting. As I understand it, this test was done with a control and the figure obtained is probably correct. However, I doubt it. I don't believe we can be sure as yet that the man does not have Addison's disease.

DR. DONAT CYR (Senior Resident in Medicine, Georgetown Service): There are some discordant factors in the diagnosis of Addison's disease: the absence of pigmentation and the normal blood pressure in the presence of a crisis. It is possible that the man had a fixed essential hypertension, in which case his blood pressure probably would not fall to the shock level usually seen in this condition. If he does have essential hypertension, could his present condition be explained on a basis of hemorrhages into the adrenal glands as a result of the elevated blood pressure?

DR. FELDMAN: His ocular fundi do not show any hypertensive changes. There is no cardiac enlargement.

DR. YATER: It is very unusual for the blood pressure to remain high in Addison's crisis, but I recall one patient whose blood pressure while not in crisis was 140/90 and who within a week developed grip and died in 3 days. Other conditions besides Addison's disease may cause such crises. (Addressing patient) Have you had stomach trouble long?

PATIENT: Yes sir, all my life; as long as I can remember.

DR. YATER: Tell us what it was like.

PATIENT: I vomited every day, almost after every meal.

DR. YATER: Would you vomit immediately after eating or later?

PATIENT: Usually in the latter part of the day following a period of misery in the upper part of my stomach.

DR. YATER: This man's unusual history, if we can believe it, is highly suggestive of chronic pyloric obstruction. If that is so, although his well-nourished appearance makes us wonder, his recent collapse was very probably on the basis of severe alkalosis with extreme dehydration and chloride deficiency caused by excessive vomiting. We should continue our present form of therapy until the patient is strong enough for a gastrointestinal X-ray study.

Dr. Sugar, this was your patient also; have you any comments to make?

DR. SAMUEL SUGAR (Senior Resident in Medicine, George Washington Service): The picture this patient presented when admitted to the ward in semicomatose condition, along with the history of epigastric pain, and recent diarrhea, put us in mind of a recent case, as Dr. Feldman has stated. A middle-aged colored male was admitted with a chief complaint of "weakness." He rapidly went into circulatory collapse, and in spite of liberal administration of fluids, soon died. Necropsy revealed extensive destruction of both adrenal glands by tuberculosis. This case being fresh in our minds, the laboratory report of very low blood chlorides made the diagnosis of acute adrenal insufficiency or Addison's disease seem quite plausible. The only sign which failed to complete the picture was the normal blood pressure. Consequently, we felt justified in treating this case with desoxycorticosterone and large amounts of normal saline. However, the patient's history today, when questioned by Dr. Yater, of "stomach trouble" for many years, dating back to childhood, with chief complaint of inability to retain food, makes one think of a persistent hypertrophic pyloric stenosis, leading to intestinal obstruction, the prolonged vomiting accounting for the low blood chlorides. The treatment seems to have been effective in restoring the fluid balance.

November 30, 1940

DR. YATER: Dr. Feldman, will you tell us the subsequent story of A. D.?

DR. FELDMAN: His general condition continued to improve. Within the next few days he became progressively more alert, more coherent and stronger. At times he complained of epigastric pain and on several occasions vomited large quantities of greenish watery material. On November 2 a flat plate of the abdomen taken in the upright position showed a hazy density over the entire abdomen suggestive of fluid. Two days later a gastrointestinal X-ray study was attempted, but it was found that the stomach was so greatly dilated and contained so much fluid that the study was unsatisfactory. Immediately after this procedure 2,100 c.c. of fluid was removed from the stomach even though the patient had received nothing by mouth for 2 days previously. On November 6 the gastrointestinal X-ray study was repeated. The stomach was found to be tremendously dilated. The duodenal cap was small and the pyloric canal very narrow. Very active peristalsis was visualized throughout the stomach. There was almost complete gastric retention up to 24 hours with traces of barium scattered throughout the large and small intestines. The preoperative diagnosis was pyloric obstruction, probably from a congenital abnormality and resulting in marked gastric dilatation. Laparotomy was done on November 8. Dense fibrous adhesions surrounded and constricted the duodenum. In the duodenal cap there was a large healed ulcer. The stomach was 3 times the normal size. A gastroenterostomy was done. The postoperative course was uneventful. At the time of discharge on November 24 the patient was taking a modified Sippy diet without discomfort. Repeated barium studies on November 26 showed the stomach to be a great deal smaller. The gastroenterostomy was functioning satisfactorily, and there was considerably less gastric retention in 24 hours.

Manual artificial respiration is said to be the best method. "When natural breathing has stopped, it is restored more effectively by manual artificial respiration than by mechanical respiration," YANDELL HENDERSON, PH.D., AND J. MCCULLOUGH TURNER, PH.B., New Haven, Conn., declare in *The Journal of the American Medical Association* for April 5, 1941.

They point out that the time lost in obtaining and adjusting mechanical devices may mean the difference between life and death of the victim. They advise that all policemen, firemen, seamen, miners, boy and girl scouts, college students and others be trained in the application of the manual (Schafer) method.

"Resuscitation is often thought of as if it were the restarting of a machine that has stopped," they say. "Actually, if the vital machine has fully stopped it cannot be restarted; it is not like an automobile motor to be started by 'cranking.' What resuscitation does—for example in the case of drowning—is to prevent the machine from coming to a full stop. For this purpose the essential is a renewed supply of oxygen while the body still retains some of its tonus and the heart is still beating.

"The volume of pulmonary [lung] ventilation that can be induced under any form of manual artificial respiration is . . . controlled by a physiologic principle: the same principle as that which regulates the volume of normal breathing under the influence of the blood gases acting through the respiratory center on the tonus of the respiratory muscles. The prone pressure method of Schafer produces all the pulmonary ventilation that this principle permits. In spite of claims for other manual methods, old and new, none of them can do more. The prone pressure method is the simplest to learn and the easiest to apply; it is therefore the best. It can be started more quickly than any mechanical device—a point of vital importance in resuscitation from drowning and electric shock.

"For resuscitation from carbon monoxide asphyxia the point of vital importance is the rapid elimination of the asphyxiant gas from the blood by means of carbon dioxide and oxygen. The results [from investigations of deeply asphyxiated dogs to determine the most effective method of administration of the resuscitant gases] show that the volume of pulmonary ventilation which can be safely induced by mechanical artificial respiration is limited by the same physiologic principle as that for manual artificial respiration, and is not more, but rather less, than under simple inhalation."

They conclude their paper with the statement that "In brief, the best method of resuscitation from drowning and electric shock is prone pressure artificial respiration supplemented by inhalation of carbon dioxide and oxygen. The best method of resuscitation from carbon monoxide asphyxia is inhalation of carbon dioxide and oxygen, initiated in cases of severe involvement by prone pressure artificial respiration."

PRESIDENT'S NIGHT

Medical Society Building
1718 M Street, N.W.

APRIL 30, 1941
8:00 P.M.

GUESTS OF HONOR

The President
The President-elect
Past Presidents and
Distinguished Visitors

HIGHLIGHTS OF PROGRAM

President's Address
Award for Meritorious Service to the Medical Society of the District of Columbia
Excellent Entertainment by Members of the Medical Society and the Woman's Auxiliary

Buffet Supper

AN EVENT WHICH WILL LONG BE REMEMBERED

PHYSICIANS AND THEIR WIVES INVITED

EDITORIALS

THE VERDICT

After eight gruelling weeks of conflicting and bewildering testimony, the trial of the American Medical Association, et al., came to a dramatic close at midnight on April 4, 1941. The courtroom was filled when the weary jurors returned a verdict of "guilty" as to the American Medical Association and the District Medical Society, "not guilty" as to the eighteen personal defendants. Previously Justice Proctor had given a directed verdict of acquittal to the Harris County (Texas) Medical Society, the Washington Academy of Surgery, and two personal defendants.

The jury's verdict has been described by some as being "anomalous" and by others as being "arbitrary." The truth of the matter probably is that it was a "compromise" verdict. It is difficult to understand how all the personal defendants could have been found free of any culpability and the two corporate defendants, the American Medical Association and the District Medical Society, found guilty of that which they could only have done through the men who were found not guilty. However, the jury was confronted with a difficult task. They had to evaluate hundreds of documents, all more or less of a technical nature, and an immense amount of testimony, much of it irreconcilable. One can readily understand the confusion which may have resulted.

The prosecution was based upon an indictment returned on December 20, 1938, charging principally an alleged conspiracy on the part of the defendants to restrain the operation of Group Health Association, Inc., in violation of the Sherman Anti-trust Law. Some time ago Justice Proctor sustained a demurrer to the indictment on the theory that those engaged in the practice of medicine are not in "trade" and on other grounds. The Court of Appeals, however, reversed this decision. The Supreme Court of the United States refused certiorari.

At the time this is written, defense counsel has filed three motions in the District Court, (1) to set aside the jury's verdict as it relates to the corporate defendants, (2) for arrested judgment, and (3) to grant a new trial. Justice Proctor will hear opposing counsel's arguments for and against the motions some time after April 21.

As the present effect of the Court of Appeals' decision and the verdict in the District Court is to hold that the practice of medicine is a "trade," relegating doctors to the category of competitors "in the market place," the ultimate decision of the courts is highly important to the medical profession. Motions which are now before Justice Proctor involve several novel legal points apparently not heretofore clearly decided.

MEDICAL ADVISORY COUNCIL TO SELECTIVE SERVICE

The following news release was issued by the National Headquarters of the Selective Service System on March 31:

"The formation of a Medical Advisory Council to coöperate with National Headquarters, Selective Service System, on problems connected with the physical examinations of registrants, was announced today by Dr. Leonard G. Rowntree, chief of the medical division.

"The Council, which is composed of six outstanding men in American medicine, will meet tomorrow (April 1) at National Headquarters, Selective Service System, 21st and C Streets, Northwest, to plan a program which will embrace not only the selection of registrants for Selective Service training but also the possibilities for physical rehabilitation of rejected registrants.

"Members of the Council, as announced by Dr. Rowntree, are:

"Dr. Francis X. McGovern, chairman of the Executive Board of the Medical Society of the District of Columbia and State chairman of the Committee on Medical Preparedness of the American Medical Association;

"Dr. Henry C. Macatee, past president of the Medical Society of the District of Columbia and a delegate to the American Medical Association;

"Dr. Thomas Stephen Cullen, professor emeritus of gynecology, Johns Hopkins Medical School and a trustee of the American Medical Association;

"Dr. Harvey Brinton Stone, associate professor of surgery, Johns Hopkins University and a member of the Committee on Medical Preparedness of the American Medical Association;

"Dr. Robert A. Bier, secretary of the Medical Advisory Council and liaison officer between the Council and National Headquarters, Selective Service System;

"Theodore Wiprud, executive secretary of the Medical Society of the District of Columbia and secretary to the Committee on Medical Resources of the District Medical Society.

"The purpose of the Council, Dr. Rowntree said, is to provide liaison between National Headquarters, Selective Service System, the American Medical Association and the medical profession at large and to acquaint them with the medical needs for the most effective administration of the Selective Service System. A primary need, he said, is the obtaining of suitable medical personnel for the examination of registrants.

"At its meeting tomorrow, the Council will study, among other things, various proposed plans for the correction of physical defects of rejected registrants."

At its first formal meeting on April 1, the Council was greeted by General Lewis B. Hershey, Deputy Director of Selective Service, and Colonel Leonard G. Rowntree, Chief of the Medical Division. General Hershey addressed the Council briefly, expressing his appreciation to its members for their assistance. Several matters were considered and recommendations made to the Medical Division.

THE BENEFITS OF CRITICISM

To suggest to physicians that the criticism which has been leveled at the organized medical profession of this country will have its beneficial effect is to invite protests from many quarters. For too frequently harsh and sometimes bitter attacks have been made on medical organizations with little or no justification. On the other hand, few physicians would deny that there are defects in the present system of providing medical care which should be remedied. Whatever view is taken, one cannot escape the conclusion that where there is criticism, there should be a realistic and objective approach to determine the underlying causes.

Dr. Frank H. Lahey, President-elect of the American Medical Association, recently addressed a group of colleagues on this subject. Dr. Lahey said:

"I know that these are critical times and times of criticisms, and the thing that I have always said to myself whenever I have been criticized is that it is certainly a very definite indication to me that I should review some of my actions and some of my views and at least determine whether or not the criticism was not justified. And I feel very sure that that is the situation as relates to organized medicine. I don't think that organized medicine in any way ought to resent criticism. I think it ought to welcome criticism. And I am certain in addition to that that rarely does criticism exist that it doesn't bring about better conditions; if it does no more than to stimulate the interest on the part of the one criticized to review the situation, it does good, and to review so often brings about changed conditions which are of advantage."*

In the course of his remarks, Dr. Lahey made it clear that he is cognizant of injustices that have been done the profession, adding, "not that I present this as an argument against criticism."

At a time when our whole social structure is shaken by the impact of violent world conflict, Dr. Lahey's comments deserve thoughtful consideration. Resentment, justifiable though it may be, is not an antidote for the prejudices which now flourish. Honest self-appraisal, sympathetic understanding and courage are qualities which are most needed in these critical times.

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* From an address delivered at the Annual Midwinter Dinner of the Connecticut State Medical Society, New Haven, January 11, 1941 (Connecticut State Medical Journal, March 1941).

PERTINENT PARAGRAPHS

March Meetings

Although the court case, which continued throughout the month, required the daily attendance of the Society's officers and several of its members, boards and committees continued to function.

The following meetings were held:

March 3	Committee on Industrial Medicine
March 4	Membership Committee
March 5	Business Meeting of Society
March 6	Section on Neurology and Psychiatry
March 12	Scientific Meeting of Society
March 17	Postgraduate Course in Office Surgical Procedures
	Obstetrical Board
March 19	Scientific Meeting of Society
March 20	Subcommittee on Tuberculosis
	Section on Pediatrics
March 24	Committee on Public Policy
	Postgraduate Course in Office Surgical Procedures
March 25	Board of Censors
	Committee on Medical Resources
March 26	Scientific Meeting of Society
March 27	Committee on Public Health
March 31	Executive Board
	Obstetrical Board

●

Building Declared Subject to Tax

In recent months there has been a reëxamination of tax exemptions granted to various so-called private organizations and institutions that own property in the District of Columbia. As a result, many of them have been placed on the tax roll by the District Board of Commissioners.

On March 7 the Medical Society was informed by Mr. G. M. Thornett, Secretary of the Board of Commissioners, that its building at 1718 M Street, N.W., which has been exempted from realty taxes since its erection in 1921, "is not legally exempt under the existing law," and "that the assessor of the District of Columbia will be directed to restore this property to taxable status at the expiration of sixty days from the date of this notice." An opportunity will be afforded the Society to have its representatives appeal this decision within the above stated period.

◆

Postgraduate Course Successful

Despite the extraordinary demands now being made upon the time of physicians, there was satisfactory response to the first of two postgraduate courses sponsored this spring by the Committee on Postgraduate Education. Ninety-six enrolled for the Postgraduate Course in Office Surgical Procedures. Attendance of those enrolled was excellent and the close attention given the lecturers indicated unusual interest.

The first lecture in the Postgraduate Course in Psychoneuroses in General Practice will be given by Dr. Walter C. Alvarez, Professor of Medicine, University of Minnesota (Mayo Foundation), and Consulting Physician, Division of Medicine, Mayo Clinic, on the evening of April 21. Dr. Alvarez is not only widely known because of his scientific achievements but for his unusual ability as a speaker. Those who know Dr. Alvarez will not miss his lecture.

The second lecture will be given by Dr. Leslie B. Hohman, Assistant in Psychiatry, Johns Hopkins University, and Assistant Visiting Psychiatrist at Johns Hopkins Hospital, on the evening of April 28. Dr. Hohman is a distinguished authority in neuropsychiatry.

◆

Medical Bureau Subscribers

The period of organization is the most difficult in any undertaking. Medical Bureau, the Medical Society's 24-hour telephone exchange, has been no exception to this rule. Telephone equipment had to be installed, operators trained, a system of handling calls developed, and numerous other details attended to. It has been a source of gratification that no major obstacles were encountered. Most heartening of all has been the satisfaction expressed by subscribers. Several of them addressed letters to the Medical Bureau commenting favorably upon the service.

At present there are 120 subscribers, of which 95 subscribe to the Alternate Listing Service and 25 to the Secretarial Service. Of the latter, 20 are physicians and four are hospitals. Recently Health Security Administration was connected with the Bureau switchboard.

With continued support the Bureau will fulfill its promise to become a vital factor in the community's health program.

◆

Group Hospitalization Subscribers Increase

The number of Medical Society members subscribing to Group Hospitalization, Inc. is rapidly increasing. In September 1939, when the Society membership was first accepted as a participating group, there were 251 subscribers. The total number on March 1, 1941 was 351. If dependents were included, it would perhaps be about three times this figure.

Reports from physicians who have had occasion to take advantage of the benefits provided under their contracts with Group Hospitalization indicate their complete satisfaction. It will undoubtedly be only a matter of time before a majority of the membership will participate.

Books of Group Hospitalization will not be open to Society members again until September 1. However, applications should be filled out and forwarded to the Society's office immediately after the first of August and not later than the 20th of that month.

◆

Membership Report

Membership in the Medical Society of the District of Columbia is at present the largest in its history. There could be no better evidence of the desirability of affiliation with the Society than this fact.

At a meeting of the Society on March 5, 1941, the Executive Board reported that on December 31, 1940, there were 1,091 members of all classifications as compared with 1,070 on January 1, 1940. During the year there had been 63 new members elected and 7 reinstated. Losses due to deaths and resignations numbered 21. Twenty-eight were dropped for non-payment of dues. However, of that number, 11 have been reinstated.

Highly satisfactory though this showing is, a large membership of itself is not enough. Fortunately, splendid support has been given by many members, making possible the worthwhile activities of the past few years.

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Connecticut Journal Praised

A number of state medical journals come across the desk of the editors of the MEDICAL ANNALS and it is natural that comparisons should be made as to content and appearance. One fact stands out and that is that there has been general improvement in all of these journals. It is also apparent that their editors have come to realize that their journals must compete for reader interest with numerous medical and lay publications (see "Change Comes to State Medical Journals," *Medical Annals of the District of Columbia*, March 1940).

An example of progressive editorship is the *Connecticut State Medical Journal*. The *Journal* is not only carefully edited but from the standpoint of typography and format it is most inviting to the reader. Editors of the ANNALS extend their congratulations.

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Medical Insurance Proposal

Communications relating to medical care plans are frequently published in the *New York Times*. On March 30 a plan of a somewhat different type was proposed. The correspondent described it as follows:

"A plan which I propose involves the creation of a national institute of medical insurance, empowered to form local or community chapters, preferably one in each State. Each chapter, under the guidance of the State medical society, would enter into the necessary contracts with the physicians and hospitals to furnish the care as outlined. The participant would have free choice of physician, surgeon and hospital, limited to those actively associated with the chapters.

"It cannot be denied that each community presents problems and considerations which may be in conflict with other States. The national institute would guide and promote each local organization.

"Under this project the wage-earner and all dependent members of his family would be entitled, for a specified contribution, to benefits and services. Composers of medical plans fail dismally in the realization that medical costs can be minimized only by the reduction in the incidence of illness by periodic examinations, curtailment of early diseases and health education.

"The physicians and hospitals must be fairly and justly compensated, for only through the satisfied disbursers of these services can this program succeed. Advertising genius, public and civic promoters, labor heads, medicine's determined collaboration and industry's mobilizing forces—all combined will sell the vitally necessary insurance to low-income families."

•

Military Exhibit

A new and timely feature of the 1941 ANNUAL SCIENTIFIC ASSEMBLY will be the Military Exhibit. It is planned to have on display medical and hospital equipment now being used in the military services. Medical departments of the Army, Navy and Selective Service System have promised to coöperate unless an emergency intervenes. If tentative plans for the exhibit materialize, it will be the first of its kind in the country.

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Proposals Relating to Woman's Auxiliary

Upon the recommendation of the President, Dr. Daniel L. Borden, the Executive Board, at its meeting on January 27, 1941, approved the following proposals relating to the Woman's Auxiliary:

1. That the Auxiliary appoint an officer or representative to appear at each of the three regular business meetings of the Medical Society to make a five-minute report of the activities of the Auxiliary for the preceding period.
2. That it be recommended to the Editor of the MEDICAL ANNALS that a page in the ANNALS be set aside each month for the use of the Auxiliary.

The Board also informed the Auxiliary that it believed adoption of a proposed amendment to its Constitution and By-laws providing for the election of its President was desirable. The amendment has since been adopted.

Action of the Board was confirmed by the Society at its meeting on March 5, 1941.

RADIO BROADCASTS

The Committee on Radio Education is continuing its broadcasts over Station WMAL. The following talks have been presented during the winter months:

December 17	"The Progress of Medicine"
December 24	"Tuberculosis"
December 31	"Diseases of the Eyes"
January 7	"Nervous Complaints"
January 14	"The Common Cold"
January 21	Interview with Members of Committee on First Aid for Inaugural Parade
January 28	"Defective Hearing"
February 4	The Washington Heart Association—What It Is and What It Does
February 11	"Appendicitis"
February 18	"History of Influenza"
February 25	"Your Sinuses"
March 4	"Typhoid Carriers"
March 11	Interview with Publicity Chairman for Five State Postgraduate Clinic of District Dental Society
March 18	"Rheumatic Fever"
March 25	"Medicine Cabinet 'House Cleaning' "

Dr. Roy L. Sexton, Chairman of the Committee on Radio Education, has been assisted by members of his committee and others in the preparation of manuscript and in the presentation of these programs. Among those who have contributed to the success of the broadcasts are Drs. Darrell C. Crain, Clayton B. Ethridge, E. Leonard Goodman, A. B. Coulter, Walter A. Rath, Mr. Robert Duncan of the American Red Cross Headquarters, and Mr. Roy C. Cordeman of the American Red Cross Volunteer Disaster Service of Washington.

MEETINGS

Wednesday, April 30

PRESIDENT'S NIGHT

Presidential Remarks—"Stand By!"—illustrated. DANIEL L. BORDEN, M.D., F.A.C.S.

Presentation of award for meritorious service to the Medical Society of the District of Columbia.

Excellent entertainment. Buffet supper. Wives are invited to attend this meeting.

Wednesday, May 7

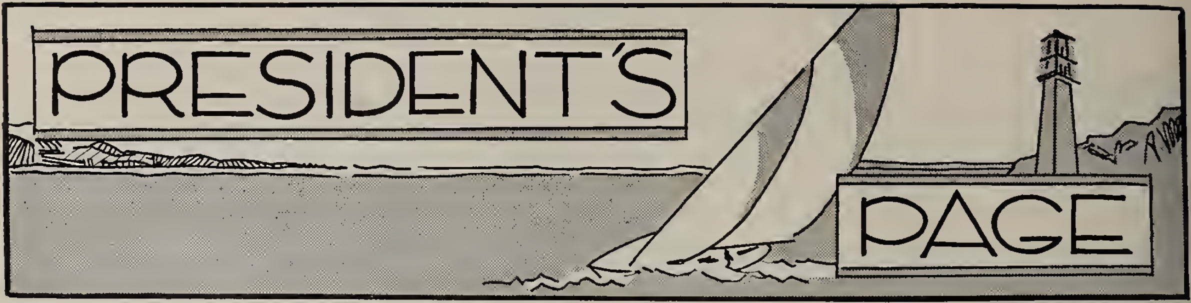
ANNUAL BUSINESS MEETING

Election of officers; annual reports of the President, the Chairman of the Executive Board and the Secretary; review of activities of the Society, its boards, sections and committees.

Wednesday, May 14

The *Section on Gastroenterology* will present the following program:

"Surgical Removal of the Noncalculus Gall Bladder." WILLIAM A. SWALM, M.D., F.A.C.P., Associate Professor of Medicine and Chief of Gastroenterology, Temple University School of Medicine, Philadelphia; RUPERT FRANKLIN CARTER, M.D., F.A.C.S., Associate Professor of Clinical Surgery, New York Postgraduate Medical School, Columbia University, and Surgical Consultant, New York Hospital.


PRESIDENT'S
PAGE

ON TRIAL

(See page 162 for names)

Daniel LeRay Borden

MEDICAL PREPAREDNESS SECTION

THE PHYSICIAN IN SELECTIVE SERVICE

Captain Robert A. Bier, M.C.

Assistant, Medical Division, National Headquarters, Selective Service System

The Selective Training and Service Act of 1940 provided the legal means of establishing the Selective Service System. The advent of a peacetime conscription of men for military service is unique in the history of the United States.

Under this law there is ample opportunity for patriotic service to the country, not only for men available for military service, but also for many citizens who may volunteer to operate Selective Service. National Headquarters is headed by the Director of Selective Service and under him there are several divisions, as Manpower, Fiscal and Supply, Legal and Medical. In each of the 48 states, Alaska, Puerto Rico, Hawaii and the District of Columbia, a similar plan is set up, with a State Director and the several divisions. The medical part of Selective Service, in which we are particularly interested, will be described in detail.

Each state is subdivided into local board areas, which correspond to counties, or where the population is dense, a Local Board for every 30,000 of population. There are 6,403 local boards in the United States.

The Local Board consists of three members in the community who have been recommended by the Governor and appointed by the President. One or more physicians are assigned to the Local Board to examine registrants. They are, however, not members of the board. Mr. Dykstra, former Director of Selective Service, has said, "... In these Local Boards rest the real administrative and functioning responsibilities of the Selective Service System."

The examining physician who is attached to the Local Board performs one of the most important functions of Selective Service. The Local Board determines the status of the registrant, and if not placed into a deferred class, the registrant is sent to the physician, who makes a physical examination of the registrant to determine his physical status. There are three classes in which a registrant may be placed on the basis of this physical examination:

1. Qualified for military service, known as I-A.
2. Qualified for limited military service, known as I-B. (This group will include those men who have minor defects which would prohibit their being used for strenuous military duty in the field.)
3. Unconditional rejection for any military service—Class IV-F.

There has been much comment and criticism in the newspapers concerning rejections at the Army Induction stations. While this has given Selective Service Headquarters considerable concern, we feel that the situation is being remedied.

The problem of rejections at Army Induction Stations is being studied jointly by the War Department and Selective Service. Measures are being taken to insure more uniformity in both the interpretation of the Regulations and the examination by Selective Service and the Army. Some of the reasons for these rejections are:

At the local board examination:
  The attitude of personal interest
  Desire to fill quota
  Inexperience and unfamiliarity with Regulations
  Imperfect examination and incomplete records
  Lack of facilities and personnel
At the Army Induction Station:
  The attitude of Army interest
  More exacting examination by disciplined team of specialists

Familiarity with examination and regulations
Difference in medical judgment

In view of the large number of rejections because of dental requirements and at the request of the American Dental Association, it was decided to add a dentist to the examining physicians of the Local Board. This was provided for by an amendment to the Regulations.

There is a group of physicians who act as consultants to the examining physicians. This group is the Medical Advisory Board. It is composed of ten or more competent specialists, which normally include an internist, opthalmologist, otolaryngologist, orthopedist, surgeon, psychiatrist, clinical pathologist, dermatologist, radiologist and dentist. If, for any reason, the examining physician desires to have a specialist decide some professional problem, or the Local Board is not satisfied with the examining physician's findings, the registrant may be sent to the appropriate specialist, or several of them, on the Medical Advisory Board. There is usually one medical board available to several local boards.

There is another physician in Selective Service who functions as a physician member of the Appeal Board. This Board is created for every 70,000 registrants and should consist of not less than 5 members. They normally include one member from Labor, one from Industry, one Physician, one Lawyer, and, where applicable, one member from Agriculture.

There is one important group of physicians who, while not actually members of the Selective Service System, are of tremendous importance in this work. This group is the Preparedness Committee for National Defense of the national, state and county medical societies. These committees organize the physicians for this work, obtain volunteers, and in many instances actually assist in the organization and work of the medical function of Selective Service. In some states there were obstacles which would have been almost insurmountable in the medical work of Selective Service were it not for the Preparedness Committee and its chairman.

There are approximately 18,000 physicians serving in Selective Service. Of these there is no question but that the examining physician of the Local Board carries a tremendous load of personal service and responsibility. The physicians, along with members of Local Boards, Appeal Boards and Government Appeal Agents, serve without compensation, as do most of the 200,000 people working for Selective Service. It must be mentioned, however, that where most laymen have free time from their ordinary business in which to do their work for Selective Service, the physician has very little free time, and the work of Selective Service offers little change from his daily routine.

There is no question but that the physician is carrying one of the heaviest burdens of Selective Service without compensation. There has been some discussion on the question of remuneration. This matter was thoroughly discussed before the passage of the Act. Congress, however, felt that since members of the Local Boards, and many others in Selective Service, were serving without compensation, the physician should not be paid. The profession itself is divided upon this; a few have complained, but others declare they will not accept compensation even if it is offered. In justice to and in defense of the self-sacrificing qualities of the American physician, it must be said that the former group are much in the minority.

With a view toward lessening the work and time required of the examining physicians, National Headquarters is urging and fostering group examinations when and wherever possible. In the urban centers, hospitals, clinics, medical schools and dispensaries are requested to make available their facilities for the use of physicians in Selective Service. These facilities will consist of space in hospitals or clinical laboratories and clerks from the staff of the hospital, or medical students as assistants. In rural areas sufficient space in a central location may be used by two or more physicians working as an examining team. A group of several local boards could be centralized around a county hospital, public clinic or other medical institution, even though it would entail a slightly greater distance for some registrants to travel.

In the District of Columbia there is an ideal situation in which every Local Board has its medical function housed in a hospital. There are six major hospitals, to which the 25 local boards send their registrants. On regular stated evenings the examining physicians of the local boards assigned to a particular hospital meet and examine a number of registrants. This team or board of examiners has a team captain, who supervises and directs the operation of the group and at times acts as a consultant. A plan such as this one reduces the actual work of physicians considerably, eliminates practically all of the drudgery, and produces a more efficient examination; for example, witness the low rate of rejections at the Army Induction Station of District of Columbia registrants. The rejection rate is around 10 per cent, which is considerably lower than the national average of rejections. The medical examining groups of the District of Columbia were found to be so efficient and satisfactory that the Medical Division of National Headquarters, Selective Service requested an opportunity to carry out certain studies in the District relating to physical examinations. This request met with the full coöperation of Lt. Colonel A. C. Gray, State Medical Officer for Selective Service in the District of Columbia, and his associates. As a result of these studies, recommendations may be made to other examining groups throughout the nation.

Some rural physicians are devoting eighteen hours a week to the work, whereas the group plan does not require more than nine hours per week at its peak, which is the present condition. It is further suggested that individual physicians and groups of physicians should be used alternately in the same manner as a hospital staff is used, thereby preserving the experience of the individual or group and doing away with the necessity of breaking in new examiners. The length of these alternating periods could be arranged to suit the locality. This plan is preferable to that of requesting examining physicians to function for a limited stated time, such as one year.

Every effort is being made to relieve the examining physician of as much work as possible in Selective Service, and, at the same time, assist him in reducing the number of rejections at the Army induction stations.

In view of the weight of the burden of work in Selective Service, it is highly desirable that new groups of physicians should make themselves available for service, and that the old and new groups become integrated. This would permit more doctors to participate, would lighten the burden of the individual doctor and increase the efficiency of the service rendered.

The response of the American physician to his part in National Defense, especially in Selective Service, will be a lasting monument to his patriotism and loyalty to his country and profession.

MEDICAL PREPAREDNESS NEWS

At a meeting of the Society's Executive Board on December 23, 1940, the matter of dues of physicians who have been ordered to active military duty was considered. The Society's Constitution and By-laws provides that the Executive Board can act in such matters, Chapter IV, Article VI reading as follows:

> "Dues and assessments may be temporarily or permanently remitted by the Executive Board."

The Board voted that Active Members, upon entering military service, should be given the option of retaining their present status by paying one half of their dues plus the assessment, amounting to $20.00, or of being elected to Associate membership.

About fifty physicians have already been ordered to duty. All of them have taken advantage of the Board's action, some retaining their Active membership status and others requesting transfer to

Associate membership. The Board has offered to be of every assistance possible to physicians who enter the Service.

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The following physicians have been called to active duty in the past month: Drs. Irvin Feldman, Luther H. Snyder, Walter Atkinson, John Edward Morris, Richard Jackson, Ernest C. Shull, Kenneth F. Laughlin, Milton M. Greenberg, Samuel Zola, Benjamin J. Mundell, Thomas J. Ready, L. Conner Moss, J. Duerson Stout, Morris Chase, Leo William Dufault, Sylvan A. Steiner, Elmer Klein and F. Bernard Schultz.

It has been reported to the Society's office that orders to active duty of the following physicians have been cancelled: Drs. Norvell Belt and Allen S. Cross.

WOMAN'S AUXILIARY NOTES

The Woman's Auxiliary makes grateful recognition of the President's Page in the February issue of the ANNALS, in which, under the title "Do You Know—," a very comprehensive picture of the activities and projects of the Auxiliary was given. With this so recent statement of the aims and interests of the Auxiliary, this column will be confined to reporting on the workings of the several committees whose activities have been most prominent during the past month.

It might be interesting to know that the Auxiliary membership has reached the three-hundred mark, and the committee headed by Mrs. William M. Ballinger is constantly seeking to secure new members. They have called the wives of doctors who are members of the Medical Society and eligible for membership in the Auxiliary and have sent them notices of meetings. Most of these names have been given to them by members of the Auxiliary. They plan, however, to go through the files of the Medical Society so that no name will be missed, and to contact, in some way, all of those who are eligible and do not belong to the Auxiliary.

The Philanthropic Committee, headed by Mrs. Gilbert B. Rude, is urging the members to support the following organizations whenever possible: the Red Cross, Bundles for Britain, Visiting Nurse Society and the Motor Corps.

Mrs. William P. Herbst, Chairman of the Program Committee, has furnished some excellent speakers this year. At the March meeting, Dr. William H. Sebrell of the National Institute of Health spoke on "Nutrition in National Defense." It was a vastly interesting talk and he gave members pamphlets afterwards so that they could plan their menus in the future with an eye to vitamin content in the food. Dr. Sebrell has done a great deal of work with vitamins and advised that they are not only essential in food from the health angle, but they also aid in combatting disease.

Hotel Carter will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Cleveland, June 2–6, 1941. Requests for reservations should be sent immediately to Dr. Edward F. Kieger, Chairman of the Committee on Hotels and Housing, 1604 Terminal Tower Building, Cleveland, Ohio.

MEMBERSHIP

The following applicants were duly elected to membership at the business session, April 2, 1941:

Active Members

George H. Crofton, 940—22nd Street, N. W.
Ben Klotz, 1028 Connecticut Avenue, N. W.
Philip J. Lowenthal, 2212 Eye Street, N. W.
Robert T. Morse, 1610—32nd Street, N. W.
Julius John Radice, 901—16th Street, N. W.
Isidore Shulman, 608 Rock Creek Church Road
John A. Washington, 2203 Wyoming Avenue, N. W.
Ruth Mitchell White, Park Lane Apartments
William A. Withers, 3700 Massachusetts Avenue, N. W.
Charles H. Wolohon, 500 Underwood Street, N. W.

Associate Members

Verne Kenneth Harvey, 111 S. Chelsea Lane, Bethesda, Md.

The following applicants for membership will be voted on at the business session, October 8, 1941:

For Associate Membership

Beatrice Bishop Berle, New York University—1938
Leonard Milton Dub, University of Cincinnati—1933
Samuel M. Novak, Chicago Medical School—1935

Recent changes in membership status:

Active to Associate

Emil Bauersfeld
Robert B. Crichton
Frank B. C. Geibel
Clayton H. Hixson
Edward A. Krause
Benjamin P. Lafsky
Marvin M. McLean
H. J. Russell McNitt
Ernest Michaelson
Harry B. Orleans
John H. Peacock, Jr.
Ivy Pelzman
Maurice van Kinsbergen

Resigned
Active Members

Donald W. Mitchell
Ralph R. Rathbone
S. Ross Taggart

Associate Member

Harlan W. Harrison

NEWS AND PERSONALS

The American Association of Industrial Physicians and Surgeons will hold an Institute of Industrial Medicine and Industrial Hygiene in Pittsburgh, May 5–9. Papers and discussions will be devoted to the medical and engineering phases of employee health protection. The Institute marks the 26th annual meeting of the American Association of Industrial Physicians and Surgeons and the second annual meeting of the American Industrial Hygiene Association. Most of the sessions will be held at the William Penn Hotel.

The Cardiovascular Department of Michael Reese Hospital is offering a two weeks' intensive course in Electrocardiography beginning August 18, 1941. The course is offered to the general practitioner as well as to the specialist in electrocardiography. The courses have been so planned that at the end of the period each student will be capable of taking and properly interpreting routine electrocardiograms. To accomplish this purpose, the course will necessarily be limited in number and, therefore, reservations should be made early. The fee for the course is $100. Reservations will be made upon receipt of $10, which will be applied on the tuition. For further information, address Michael Reese Hospital, Cardiovascular Department, 29th and Ellis Avenue, Chicago, Ill.

The American Association of Obstetricians, Gynecologists and Abdominal Surgeons announces the rules governing the award of **"The Foundation Prize,"** which carries an honorarium of $150. Eligible contestants shall include only (a) interns, residents or graduate students in obstetrics, gynecology or abdominal surgery, and (b) physicians who are actively practicing or teaching obstetrics, gynecology or abdominal surgery. The manuscript, limited to 5,000 words, must be typewritten, double spaced, on one side of the sheet, and presented under a nom de plume. Three copies of the manuscript and illustrations must be in the hands of the Secretary, Dr. James R. Bloss, before June 1. His address is 418 Eleventh Street, Huntington, W. Va.

The Annual Regional Meeting of the American Academy of Pediatrics will convene in Richmond, Va., April 24 and 25. Dr. James B. Stone of Richmond is in charge of arrangements for the conference.

The American Medical Golfing Association will hold its 27th annual tournament at Cleveland Country Club and Pepper Pike Club in Cleveland, Ohio, on Monday, June 2, 1941. Members may tee off from 7:30 a.m. to 2:00 p.m. Thirty-six holes of golf will be played in competition for the fifty trophies and prizes in the eight events. Trophies will be awarded at the golfers' banquet in the evening. It is anticipated that from 250 to 300 medical golfers from all parts of the United States will participate. Application blanks may be secured from the Secretary of the A.M.G.A., Bill Burns, 2020 Olds Tower, Lansing, Michigan. All male Fellows of the American Medical Association are eligible to enter the tournament.

The Nineteenth Annual Meeting and Scientific Session of the American Academy of Physical Medicine will be held at the Hotel Pennsylvania, New York, on April 28–30.

The American Association for the Study of Goiter has just announced that its three-day meeting will be held at the Hotel Statler, Boston, May 12, 13 and 14 instead of later in the month, as previously publicized.

The District of Columbia Pharmaceutical Association will hold its 89th annual meeting and convention at the Shoreham Hotel, May 21 and 22, 1941.

The National Gastroenterological Association will hold its sixth annual convention, May 13–16, 1941, at the Commodore Hotel, New York City. Dr. Henry A. Monat, who appears on the program of the convention, will speak on "Underweight: A Problem in Treatment." Other participants from the Medical Society will be Drs. Wyrth P. Baker, Roy Lyman Sexton and Albert J. Sullivan.

The Annual Round Table Luncheon of the Medical and Chirurgical Faculty of the State of Maryland will be held April 23 at 1:00 p.m. in the Charles Room of the Belvedere Hotel, Baltimore. Reservations for the luncheon, at $1.00 each, can be made by writing to the Medical and Chirurgical Faculty, 1211 Cathedral Street, Baltimore.

On February 24 the **Executive Board** confirmed the **appointment of additional members** to several committees. They were as follows:

Committee on Medical Meetings: Drs. John H. McLeod, Charles R. L. Halley and William M. Ballinger.

Subcommittee on Sanitation: Drs. H. H. Leffler, Emil J. C. Hildenbrand, K. Hammond Mish and Merton E. Twogood.

The Speakers' Bureau has provided speakers for various groups during the past month. The groups addressed and the topics discussed were as follows:

February 18—Columbia Hospital, Class for Prospective Fathers
  "Training for Fatherhood," Dr. Margaret Nicholson
March 18—Red Cross Class
  "Skin Infections in Children," Dr. P. A. McLendon
March 20—Senior Students, Roosevelt High School
  "Medicine as a Profession," Dr. Henry B. Gwynn
March 21—Petworth Women's Club
  "They Didn't Know They Had Diabetes," Dr. E. Clarence Rice
March 26—Columbia Hospital, Class for Prospective Fathers
  "Venereal Diseases," Dr. Thomas C. Thompson
March 28—Nurses' Aide Class
  "Child Management," Dr. Ralph M. Crowley
March 28—Red Cross Class
  "It May Be Catching," Dr. David Weinstein

The Section on Pediatrics presented the following program on March 20: "The Clinical Problem of Milk Sensitivity in Older Children," Drs. P. A. McLendon and Reginald H. Mitchell; "The Treatment and Prophylaxis of Tetanus," Dr. William A. Howard.

The Section on Neurology and Psychiatry met at the Society's building on April 3. The program for the evening was as follows: "Shock Therapy in Non-institutional Psychotics," Dr. Zigmond Lebensohn; "Surgical Treatment of Unilateral Parkinsonian Syndrome," illustrated with moving pictures, Dr. O. H. Fulcher.

Several officials of **Health Security Administration** made a preliminary air survey March 22 of Washington and nearby Maryland and Virginia. Among them were Drs. Herbert P. Ramsey and Watson W. Eldridge of the Medical Society. The purpose of the survey was to discover where new building is in progress and to determine in which direction, geographically, the population is increasing. Population trends will be an important factor in choosing cites for any new hospital facilities.

At the suggestion of Mr. Charles Drayton, President of Children's Hospital Board, a meeting was called at Health Security Administration on March 25, to which were invited presidents of Washington hospital boards and other board members and the Executive Committee of Health Security Administration.

The information gathered by the Health Security officials was presented at this meeting. A resolution was passed providing for a comprehensive survey of the situation and the development of a "master plan." "The master plan," according to Mr. Ross Garrett, Health Security Administrator, "is being developed like a tripod, from three bases. The first base is developed from study of need for hospitalization. In studying need for hospitalization, sex, color, age, housing, type of employment and type of dependency of the existing population of the entire area are being considered, together with social, economic and transiency fluctuations. The second base has to do with the existing hospital and allied facilities to meet the needs determined in the study of the first base. . . The third base covers financial resources, both existing and to be required."

The General Alumni Association of George Washington University honored 19 instructors who have served 25 years or more on the faculty of the University at a luncheon at the National Press Club, April 5. Presiding was Dr. Robert H. Harmon, President of the Alumni Association. Dean Henry Grattan Doyle, of the University, delivered an address on "Wholehearted Inter-Americanism."

Following are the faculty members of the Medical School who were honored:

> Dr. Daniel LeRay Borden, Associate Professor of Surgery; Dr. Cline N. Chipman, Associate in Anesthesia; Dr. Coursen Baxter Conklin, Clinical Professor of Medicine; Dr. Harry Hampton Donnally, Professor of Pediatrics; Dr. Frank Adelbert Hornaday, Assistant Professor of Medicine; Dr. Howard Francis Kane, Professor of Obstetrics and Gynecology; Dr. Harry Hyland Kerr, Clinical Professor of Surgery; Dr. William Berry Marbury, Clinical Professor of Surgery; Dr. Richard Knight Thompson, Associate in Dental Surgery; Dr. Elijah White Titus, Clinical Professor of Obstetrics and Gynecology, and Dr. Charles Stanley White, Professor of Surgery.

The Medical Society of St. Elizabeths Hospital will hold its fourth annual meeting in Washington on April 26. Members of the Society will be luncheon guests of Dr. and Mrs. Winfred Overholser. In the afternoon papers will be presented on topics of neurologic and psychiatric interest. The meeting will close with a dinner at the Mayflower Hotel, with Sir Willmott Lewis, Washington Correspondent of the *London Times*, as the guest speaker. Further details concerning the meeting may be obtained from the Secretary, Dr. Manson B. Pettit, St. Elizabeths Hospital.

At a meeting of the **Washington Ophthalmological Society** on March 3, the following officers were elected:

> Dr. E. Leonard Goodman, *President;* Dr. L. Conner Moss *Vice President;* Dr. Sterling Bockoven, *Secretary-Treasurer.*

The Clinico-Pathological Society held its regular meeting March 18 at the home of Dr. William B. Marbury. Dr. Daniel B. Moffett read a paper entitled, "Sinusitis in Children."

At the April 1 meeting, held at the home of Dr. H. H. Kerr, the program consisted of case reports as follows: "Sarcoma of the Cervix Uteri," Dr. Edwin A. Merritt; "Proctalgia Fugax," Dr. Prentiss Willson; "Vesico-Vaginal Fistula," Dr. Henry L. Darner.

The Society's annual dinner meeting will be held at the Chevy Chase Club on Tuesday, April 15. Dr. Harrison E. Howe, Editor of *Industrial and Engineering Chemistry*, will present a lecture entitled, "Ersatz at Home and Abroad." A golf tournament and putting contest for members will be held the same afternoon at the Chevy Chase Club.

Dr. LeRoy Dunn was host to the **Hippocrates-Galen Society** on April 3. Dr. Walter Myers presented a paper on "Gout," while Dr. Hill Carter described "An Unusual Case of Cardiac Death."

Members of the **George Martin Kober Medical Society** paid tribute to the late Dr. Kober, for whom the Society is named, by placing a wreath on his grave in Glenwood Cemetery on March 28. This date marked his 91st birthday anniversary.

The United States Public Health Service has organized an orientation course for physicians, engineers, nurses and laboratory technicians relating to special health and sanitation problems in the civil areas in and around military camps and industrial establishments. The course began April 7 at the National Institute of Health, Bethesda, Md. Two hundred and fifty public health workers, all chosen from Civil Service lists, will receive instruction for a one-month period each during April, May and June. Following this course, those enrolled will receive supplemental field training of one or two weeks' duration in and around Baltimore. They will then be assigned to coöperate and work with state health departments in the most pressing areas. Dr. Mark V. Ziegler of the United States Public Health Service is directing the course.

The Massachusetts Department of Mental Health announces the completion of the fifth series of "Waverley Researches in the Pathology of the Feebleminded." The series, like the former publications, deals intensively with ten cases. The authors, Canavan and Eisenhardt, have also included a summary of the fifty cases comprising the whole series. All orders for the publication should be addressed to the Secretary of the Commonwealth, State House, Boston, Mass.

Mr. Harald H. Lund, former assistant to the Director of Alien Registration, United States Department of Justice, became Executive Secretary of the District Tuberculosis Association on March 3. The Association was recently reorganized in accord with the recommendations of the Plenary Committee, whose members were Mr. Ross Garrett, *Chairman*, Dr. Watson W. Eldridge and Mr. Willard C. Smith.

Dr. Roy L. Sexton and **Dr. Daniel F. Lynch** will give a paper on the "Relationship of Gastrointestinal Diseases to Oral Infection" at the 77th annual meeting of the Connecticut State Dental Association, to be held at the Hotel Stratfield, Bridgeport, April 30, May 1 and 2.

Theodore Wiprud, Secretary of the Society, addressed the senior medical students of Georgetown University School of Medicine on "Physicians' Records," March 22.

Mr. Irving A. Tennyson was made President-elect of the District of Columbia Pharmaceutical Association on March 20. Mr. Tennyson will be installed in office at the Pharmaceutical Convention, May 22.

Dr. James N. Greear, Jr., was reëlected President of the District of Columbia Society for the Prevention of Blindness at its annual meeting, March 25.

Dr. Joseph Horgan spoke informally to the Alpha Chi Rho Club at a dinner at the Cosmos Club on March 19. His topic was "The Doctor's Attitude toward Civic Affairs."

Dr. Henry J. Crosson was elected President of Catholic Charities of Washington at the organization's 21st annual meeting held in the Willard Hotel, March 13.

SULFATHIAZOLE-WINTHROP

Important Notice

In the manufacture of tablets of Sulfathiazole-Winthrop, "M.P." control series (December, 1940), some of the tablets were accidentally contaminated with phenobarbital. Immediately upon discovery of this, active steps were taken by us to recover this entire series.

Our attempt to assure the return of all tablets of the "M.P." control series is being continued, in conjunction with the nationwide effort of the U. S. Food & Drug Administration and other public agencies. In the interest of public safety, your prompt coöperation with us and with these public agencies in this search will be greatly appreciated, as these contaminated tablets may be dangerous.

Please examine the mark on every package of our Sulfathiazole tablets, and return to us immediately for exchange any package marked with the letters "M.P." If you have dispensed tablets from bottles bearing these control letters, will you kindly endeavor to recover all such tablets which have not been consumed.

Needless to say, this occurrence is a matter of profound regret to us. Nothing of this nature has ever happened before in our history, and we are taking extraordinary precautions to prevent a recurrence. For more than two decades we have served the medical and pharmaceutical professions. During that period we have earned a reputation for high standards and outstanding products which we shall strive faithfully to maintain.

WINTHROP CHEMICAL COMPANY, INC.

April 3, 1941

ON TRIAL

There appears on the PRESIDENT'S PAGE in this issue, under the caption, "On Trial," a series of photographs taken during the recent court proceedings. Names of those who appear in these pictures are as follows:

PAGE 152, top row (left to right): Drs. R. Arthur Hooe, Wallace M. Yater, E. W. Titus, Olin West—Drs. Leon A. Martel, Francis X. McGovern, E. Hiram Reede—Mr. Seth W. Richardson, Counsel for the American Medical Association, et al.

Second row: Messrs. Edwin M. Burke and William E. Leahy, Counsel for the American Medical Association, et al.—Drs. Morris Fishbein, William Dick Cutter, Rosco G. Leland, William C. Woodward—Dr. Reede, Mr. Theodore Wiprud, Drs. William B. Marbury, Thomas E. Neill.

Third row: Drs. McGovern, Thomas E. Mattingly, Neill, A. Y. P. Garnett—District Court House—Dr. Daniel L. Borden, Mr. Wiprud.

PAGE 153, top row (left to right): Messrs. Grant W. Kelleher, John H. Lewin, Compton Timberlake and Walton Allen, Counsel for the Department of Justice—Messrs. Elmer B. Hammond, Lewis S. Price and Upton Richards, U. S. Marshals—Mr. Charles S. Baker, Counsel for the American Medical Association, et al.

Second row: Messrs. Gerald Gross of the *Washington Post*, Samuel Shaffer of the *Times-Herald* and Harold Rogers of the *Evening Star*, newspaper reporters—Drs. J. B. Gregg Custis, George W. Creswell, Henry R. Schreiber, Frederick C. Fishback—Dr. McGovern.

Third row: Mr. Leahy, Drs. Titus, Cutter, Fishbein—Mr. Burke (extreme left), Dr. Fishbein (far right)—Dr. Yater.

Fourth row: Mr. Burke, Drs. Woodward, Henry C. Macatee—Drs. J. Ogle Warfield, Reede—Drs. J. Rogers Young, Martel.

(*Continued from page 126*)

All professionals, every physician, every dentist, every pharmacist, every lawyer, every clergyman, every teacher, every trained nurse, every trained thinker, must be enlisted in a continuous campaign of defense.

Defense against disease is quite as important as defense against a military enemy, but defense against those forces which are destructive of our religions, of our faith in God and in our fellow man is vital to the preservation of the integrity of our national life.

It cannot be a short campaign, not less than twenty years. Every physician must become conscious of his civic obligations. Youth must be inspired and our crusading spirit must be revitalized.

I am hopeful that all loyal Americans will present a united front in a battle for the triumph of the Spirit of Democracy in the United States.

If we do this I am confident that we shall prevail.

(*Continued from page 133*)

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MEDICAL ANNALS
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VOLUME X MAY, 1941 NUMBER 5

ELECTRICALLY INDUCED CONVULSIONS IN THE TREATMENT OF FUNCTIONAL MENTAL DISEASE*

DAVID J. IMPASTATO, M.D.

Attending Neuropsychiatrist, Columbus Hospital; Associate Neuropsychiatrist, Welfare and City Hospitals; Instructor of Neurology, New York University Medical College

AND

RENATO ALMANSI, M.D.

Clinical Assistant in Neurology, New York University Clinic and Mount Sinai Hospital

Cerletti,[1, 2] in studying problems of epilepsy, for a number of years prior to the introduction of the convulsive therapy of Meduna for the treatment of mental diseases, had induced convulsions in dogs by the use of electricity. It was only natural, after he became aware of the results achieved by Meduna, that he thought of the possibility of inducing the convulsions by electricity in man. His experiments with dogs had taught him that the method was safe, that he could produce a convulsion by applying a certain amount of electricity for 0.1 second, and that it took 40 to 50 seconds with the same amount of electricity to kill the dog, the safety factor being 400 to 500, a factor safer than most of our common drugs. Nevertheless, when he conceived the idea, he was afraid to make the change from the dog to man. He thought first of applying it to a larger animal. Therefore, he induced convulsions in numerous pigs at the Slaughter House in Rome, where the pigs were stunned by electricity before being killed. After he was fully convinced that the method was safe he produced his first human electro-convulsion on an old schizophrenic in April 1938.

The early electric applications in man were made with the same apparatus used on the animals. Later, Bini modified and perfected it and evolved a machine which was safe to use.

Our contribution to this subject so far has been very modest indeed, and has consisted, aside from introducing the method in the United States, of confirmation that the method is safe, and some original observations on the neuropsychiatric aspects of the problem. Our work is based on careful study of about 300 convulsions in some 30 private patients, the experience of one of us (R. A.) at the Rome

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* Read before the Section on Neurology and Psychiatry of the Society, December 5, 1940.

Clinic of Bini, the study of the convulsions in dogs,[3] and some metabolic studies in rats.[4] The number of cases which we have treated is so small that no conclusions as to the results can be drawn from them. For this we have to quote from the Italian literature.[5] The observations we have made are not presented as final. Indeed, we feel they are among the first dim lights in the illumination of the problem.

ADVANTAGES

Soon after the introduction of electro-shock therapy, Cerletti noticed some very obvious and important advantages over the other forms of convulsive therapy. These may be enumerated as follows[6]:

1. With electro-shock, there is always produced an absolute unconsciousness and subsequent total amnesia for the treatment. The patient, having no memory for the treatment, does not show any reluctance to continue. With metrazol, there is produced a horrifying feeling of dissolution and death prior to the convulsion, which is recollected and which often is the cause for the discontinuance of the treatment.

2. It is always possible to produce a fit once the threshold has been reached.

3. Failure to produce the complete convulsion does not produce excitement, as when metrazol is used.

4. In general, there is no post-convulsive excitement as after the metrazol convulsion, and in few cases in which it does occur it is very mild and of shorter duration, about 30 seconds. It might be said, at this point, that at the present time we believe that in electro-shock therapy, post-convulsive excitement is produced mainly through examining or holding the patient as he begins to regain consciousness. This reaction will be described further on.

5. The convulsion is usually less violent and of shorter duration than that produced by metrazol. As previously reported,[7] this is ascertained by simply observing and timing the convulsion, and also by doing electro-encephalograms during the actual convulsion. It has been our good fortune during this work to have had the coöperation and assistance of Dr. Hans Strauss of New York, who has had considerable experience with electro-encephalography. Prior to our work, he had already performed electro-encephalograms during metrazol seizures. He was kind enough to perform electro-encephalograms in a number of our cases during the electro-convulsion. The electro-encephalograms show that both in electro and metrazol[8] convulsions, the electro-encephalogram is identical, with the following exceptions: (a) Electric fit lasts 30 to 45 seconds, the metrazol, 45 to 60 seconds; (b) the electro-encephalogram returns to the pre-convulsive pattern in electro-shock in less than 30 minutes, in the metrazol after 45 minutes; and (c) the period of abnormal activity following failure to produce a convulsion is always about 5 minutes with the electro-shock, and always over 45 minutes with the metrazol. These findings seem to indicate that there is a milder stimulation and less possible damage to the brain with the electro-shock than with the metrazol.

6. There is no difficulty with inaccessible and thrombosed veins with electro-shock as in the metrazol.

7. General complications are less frequent with electro-shock than with the metrazol.

8. No after treatment convulsions occur after electro-shock as do after metrazol convulsions.

9. No deaths have been reported with electro-shock, while Meduna[9] reported an incidence of 0.29 per cent deaths with metrazol.

SELECTION OF PATIENTS

So far we have treated only patients suffering from schizophrenia and manic-depressive psychoses. Cases of psychoneurosis, involutional psychosis, and other conditions have been or are being treated at other clinics.

The prospective patient to be treated is carefully studied and selected. A patient is rejected if he is:

1. Over fifty years of age.
2. Suffering from organic disease of the nervous system.
3. Suffering from severe anemia or other blood disease.
4. Suffering from any bone disease which might result in a fracture.
5. Suffering from lung, liver, or kidney disease.
6. Suffering from heart disease.
7. If his blood Wassermann reaction is positive.

The complete study of the patient includes a careful history; psychiatric, neurologic and medical examinations; X-ray films of the chest, spine and skull; blood and urine examinations; electrocardiogram and electro-encephalogram.

NEUROPSYCHIATRIC MANIFESTATIONS

So far we have observed three types of responses to electro-shock. As Bini[10] also points out, these are:

1. Blank, or no response
2. Petit mal
3. Grand mal
    - a. Immediate
    - b. Delayed
    - c. Partial

1. The blank and petit mal responses are usually obtained at the beginning of the treatment, when the convulsive threshold is being determined. The blank response is characterized by fleeting unconsciousness, sudden flexor spasm of the entire body, and by the absence of apnea and amnesia. The spasm consists of sudden retraction of the head, closure of the eyelids, moderate flexion of the elbows and wrists, and triple flexion of the lower limbs. The reaction is mild, and usually the lower limbs are not lifted off the mattress. At about the same instant the patient raises his hand to his mouth and removes the mouthpiece, making some such exclamation as, "What is this?," "What happened?," or showing some surprise. He responds immediately to questions. He knows where he is and knows those about him, and shows no amnesia except for the actual passage of the current. He does not object to a second application. Accompanying the spasm there is a mild flushing of the skin. The blank reaction is produced by insufficient dosage.

2. Petit mal is characterized by a longer period of unconsciousness and by a more violent spasm (which will be described with the full convulsion); an apneic period lasting up to a full minute; a retro-amnesia and a loss of contact with the environment. The patient, on regaining consciousness, usually exclaims, "Where am I?" and looks about in a searching manner. He does not recognize the personnel, and if some of his relatives are present he usually weeps. He knows his own name and those of his relatives, but not that of the doctor. The amnesia usually lasts about 10 minutes. The spasm is accompanied by a flush of greater intensity than in the blank reaction, and a moderate cyanosis replaces it during the apnea. Immediately following the apnea, after resumption of breathing and while still unconscious, he may make a few automatic movements.

3. For descriptive purposes the immediate grand mal reaction may be divided as follows:

The spasm
Pre-convulsive phenomena
The convulsion
Post-convulsive phenomena
Autonomic responses
Neurologic signs
Post-convulsive mental phenomena

The spasm begins with a lightning flexor contraction of the entire body, usually starting at the head and neck and going down to the upper and lower limbs. The retraction of the head may be very marked, the patient's head sinking deeply into the pillow. Concomitant with the retraction of the head, there is a violent, sudden closure of the eyelids. The position of the limbs varies. Perhaps the most usual is as follows. In the upper extremities there is moderate abduction and internal rotation at the shoulders, flexion and pronation at the elbows so that the forearms lie across the chest, and flexion at the wrists; the fingers are usually extended, with the thumb abducted. In the lower limbs there is triple flexion with the heels off the bed and the thighs flexed at 90 degrees at the height of the movement; at times there is also abduction of the thighs. This reaction is instantaneous, the limbs relaxing immediately.

The pre-convulsive phenomena occur in the interim between the initial flexor spasm and the tonic or convulsive phase. They consist of purposeful automatic movements or complete inactivity. The purposeful movements may consist of adjusting the shoulder straps or fumbling with the pants, etc. During this activity the patient is unconscious. The tonic phase or a period of inactivity may follow immediately and be succeeded finally by the convulsion.

The convulsion is characterized by a tonic phase followed by a clonic phase. The tonic phase may be initiated by a loud cry, wide opening of the eyes and mouth, turning of the eyes and head and occasionally the body to one side, and the assumption of a rigid posture like that of decerebrate rigidity. The tonic phase may develop quickly or slowly. The position of the body assumed may be symmetrical or asymmetrical. The upper limbs are usually in extension, the wrist flexed and the fingers extended with the thumb strongly adducted so that it usually lies between the index and middle finger. Occasionally one upper limb may be flexed and one extended, so that with the ensuing clonic movements the patient may be imagined to be playing a guitar. The lower limbs are usually in extension with the feet in plantar flexion. Occasionally they are flexed at the hips and knees. At times, one limb is flexed and one extended. There are apparently numerous variations to the postures assumed by the different patients. However, the type of posture assumed by each patient is usually repeated with each convulsion. The tonic phase lasts from 2 to 10 seconds and is followed immediately by the clonic phase.

The clonic phase may be regarded as a gradual but spasmodic relaxation from the tonic stage. The eyes are kept closed but there are violent spasmodic contractions of the orbicularis and the masticatory muscles. In the limbs the agonists and antagonists contract and relax at the same time, so that one type of movement is constantly repeated. In the lower limbs this movement is most constantly a vigorous extension thrust, while in the uppers a flexion of the elbows and wrists, the combined movements resembling closely those produced in rowing. Each subsequent clonic movement is of smaller amplitude than the preceding and occurs after a larger period of relaxation. This continues until finally all movements cease. The clonic phase lasts from 10 to 20 seconds.

The clonic phase is followed by a period of apnea which may last from 1 to 50 seconds. Following the apnea there is a period of 1 to 2 minutes of harsh breathing and mild frothing. At this time the patient may cough and thus scatter the saliva about. Now there may occur some automatic movements like rubbing the head, adjusting the clothing, etc.

Accompanying the above manifestations there occur a number of autonomic responses, as follows: Immediately after the spasm the skin of the face and body become lobster red from a prodigious flush. During the convulsion the flush quickly becomes less intense and is followed by cyanosis. After this the face becomes ashen in color for 4 to 5 minutes before returning to normal. There also may occur, at the time of the convulsion, sweating, loss of semen, cutis anserina, loss of urine, dilatation and fixation of the pupils, increased salivation, nausea and vomiting, and changes in the pulse and the blood pressure. The sweating is independent of the convulsion, since it may also occur during the petit mal attacks or be absent with a full convulsion.

The following transitory neurologic signs may be found immediately after the convulsion: loss of the abdominal reflexes, ankle clonus, positive Babinski, disappearance of the Mayer reflex, and occasional mild positive tonic neck responses. The pupils become maximally dilated and unreactive to light during the apnea, and they remain so for about a minute, when they return to normal size and once again become reactive.

During the convulsion the patient is unconscious. This period of total unconsciousness is followed by a short period of about a minute of partial consciousness, during which the patient keeps his eyes open or shut but does not move or respond to threatening gestures. This may be called the "unresponsive" period. A short time later he appears to over-react to stimuli. If a hand is waved before him, he follows it back and forth with his eyes. A short time later he still does not answer questions, but is bewildered and out of touch with his environment. He either lies down looking apprehensively at those about him, or sits up in bed slowly touching things nearby in a blind, delirious fashion. During this time his judgment is markedly impaired and he may misinterpret examinations for attempted assaults and withdraw in marked fear. An instant or two later, this fear may be transformed into excitement and assaultiveness. This reaction usually lasts about 30 seconds. It is best avoided by leaving the patient alone and by bringing into the treatment room a close relative of the patient. The sight of the relative usually reassures the patient and has a decidedly calming influence upon him. Following this, the patient may close his eyes and rest quietly, or may toss about restlessly, making certain purposeful movements such as touching or rubbing himself here and there. At times he may moan softly. This phase lasts from 3 to 5 minutes, following which the patient suddenly opens his eyes and exclaims: "Where am I?," "Who are you?," "I don't know you!," "I have lost my mind!," etc. He remembers his own name and the names of his relatives, but not that of his physician. If now he is shown a picture of a doctor's office, with a doctor, nurse and a patient on a scale, he is at first able to name only the objects in the picture without knowing the significance of each. A little later he will say, "That's a nurse; that looks like a doctor, etc."; but he cannot comprehend the entire action of the picture (Gestalt). At this time he is still unable to recall the physician's name but may be calling him "Doc." Finally he will say, "The picture represents a doctor's office; the three people are a doctor, a nurse, and a patient. I remember you now," and then calls the doctor by name. At this stage, the patient may be considered mentally clear. During the immediate amnesic period the patient may show emotional reactions such as weeping, laughing or singing, especially if relatives are about. Some patients may uncover their conflicts. One of our patients, who became ill immediately after marriage, when shown his wife, said, "I don't know her; she is St. Theresa," obviously a quick though nonlegal and nonlasting divorce. At this time we feel that psychotherapeutic suggestions are indicated. The amnesia may last up to 3 hours or longer. A number of patients complain of loss of memory following the third or fourth treatment, which lasts throughout the entire course. It usually disappears soon after the treatment is ended.

If the patient is pricked immediately after the convulsion, during the unresponsive stage, he does not respond at all to the pin. A little later, during the over-reactive stage, he over-responds, and if pricked in the middle of the arm, for example, he scratches up and down the entire arm, but does not withdraw. A little later he stops scratching and begins to withdraw the arm from the pin. Still later, as he becomes clearer he looks at the pin and the examiner and does not move or scratch at all; this time the reaction is normal.

The delayed grand mal reaction is essentially the same as the immediate grand mal, except that there occurs a period of inactivity lasting up to a full minute between the initial spasm and the tonic phase.

The partial grand mal consists of the spasm, the preconvulsive phenomena, the tonic phase and a local clonic phase, followed by the other phases. This reaction is extremely rare. It is described by Bini. It has occurred only once in our experience. This patient had two treatments 15 minutes apart on the same day. The first treatment resulted in a petit mal seizure. The second treatment was followed by the spasm, preconvulsive phenomena, the generalized tonic phase, and localized clonic twitchings of the orbicularis oculi muscles only. This was in turn followed by the other phases.

METABOLIC CHANGES

As with insulin[11] and metrazol,[12] after the electro-shock fit,[1, 13] there occur marked metabolic changes. So far the following facts have been determined. The pH of the blood has been lowered; the lactic acid in the blood is markedly increased from the contractions of the muscles; the blood sugar rises as much as 50 per cent from conversion of the lactic acid into sugar; the leukocytes are increased up to 100 per cent; the red blood cells are moderately increased; the hemoglobin is increased from 10 to 20 per cent; the sedimentation rate is slower. Our experiments on the metabolism of the rat's brain following single electro-convulsions indicate reduced ability to oxidize following the electrically induced convulsion. The reduction seems greater than that found after other convulsive agents.

PATHOLOGY

The brain pathology in electro-shock has been studied only in dogs, no deaths in man having been reported. Cerletti states that he has not found any grave irreversible cell change, as found after insulin hypoglycemia. In electro-shock there occurs an acute but reversible cellular reaction.[1]

COMPLICATIONS

The complications following the electro-fit are milder and much less frequent than complications following metrazol convulsions.[14] So far, in electro-shock, only transient arrhythmias, a case of pulmonary embolism, a small number of dislocations and fractures of the long bones and vertebrae have been reported. The only complication which we have encountered in our cases so far has been dislocation of the jaw on three occasions in the same patient. Other workers have reported a 10 per cent incidence of fractures of the vertebrae.

RESULTS

The results in electro-shock parallel closely those of metrazol.[5] Recent cases, up to 6 months' duration, show 80 per cent remission; moderate cases, from 6 months' to 3 years' duration, show 25 per cent remission; and cases of over 3 years' duration show no remissions but some social recovery. Apparently the best results are obtained in the affective disorders. We have not attempted to treat any of our patients with sub-convulsive doses. A number of our patients, in whom we have at times produced only a petit mal seizure, usually became worse until the next treatment. The sub-convulsive question will have to be determined later.

We do not know of any explanation for recovery following a series of electro-convulsions, and we do not choose to enter into speculation. We consider the method entirely empirical. It is possible, however, that the metabolic changes outlined above and other somatic changes which undoubtedly occur, play a part in the final result.

THE APPARATUS AND THE TECHNIC OF APPLICATION

We shall describe the apparatus (fig. 1) and its practical use according to our own technic, which is essentially that developed by the Rome Clinic.[2, 10] We are purposely avoiding any discussion of the electrophysics involved.

The apparatus is supplied by the ordinary 60-cycle, 120-volt alternating current house current. It consists of a switch which connects the house current to the machine. There are two circuits included in the machine, namely, a direct (galvanic) for measuring the resistance of the patient's head, and an alternating (faradic) or shock-producing current; a selector switch selects one or the other current as desired. The instrument panel shows, in addition, the following: a milliampere meter which is used to read the milliamperes that flow through the patient's head; an ohm meter to measure the resistance of the patient's head; a voltmeter; a potentiameter which is used to increase or decrease the voltage; and an electronic timer capable of allowing the passage of the current for 0.05, 0.075, 0.1, 0.125, 0.15, 0.2, 0.5, 1.0, and 2.0 seconds. Included on the panel are also indicators for the house current switch and for the electronic timer; electrodes jack; maximum current meter; shock power switch, and shock button.

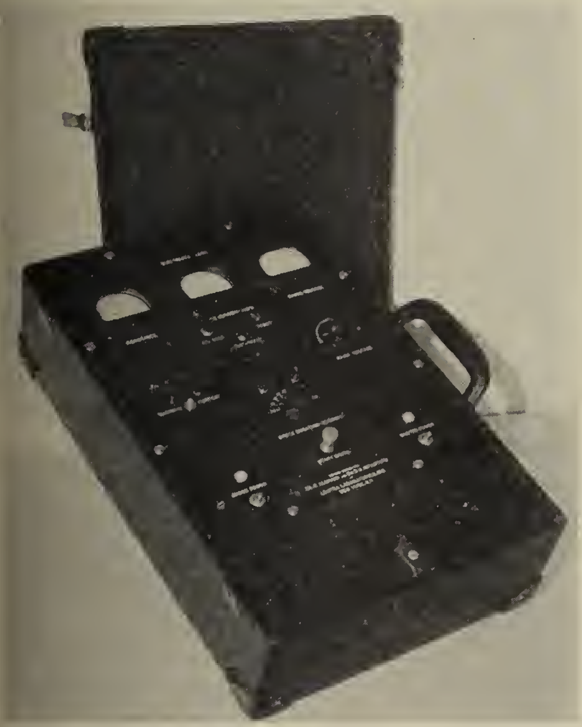

FIG. 1. First row, from top to bottom: (1) ohm meter, (2) maximum current meter, (3) shock power switch.

Second row: (1) electrodes jack, (2) milliampere meter, (3) current selector switch, (4) timer, (5) shock button.

Third row: (1) voltmeter, (2) potentiameter, (3) house current switch.

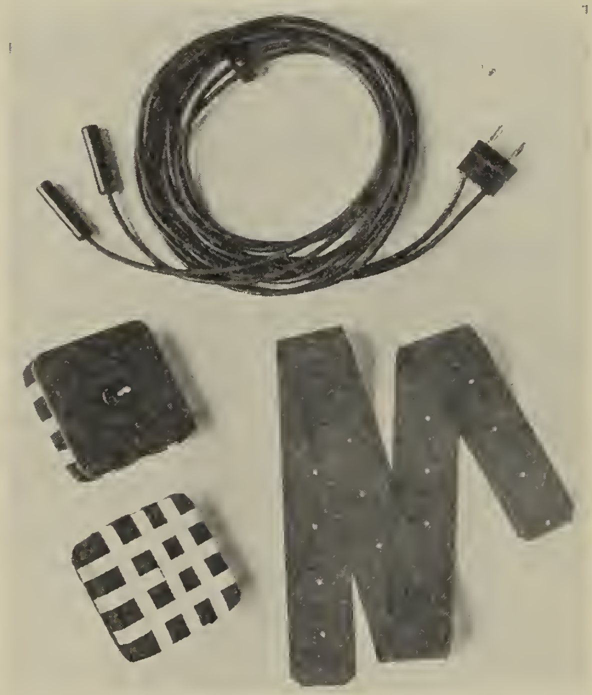

FIG. 2. Top—electro wires; left—electrodes; right—electrode strap

The electrodes (fig. 2) consist of silver bands mounted on a square piece of soft rubber sponge. They are held in place by a rubber strap which encircles the patient's head. Before the electrodes are applied to the patient's head, they are covered with a cloth which has been moistened in a 25 per cent saline solution. This is done to insure better contact.

The patient, having been carefully studied and selected as indicated above, is now ready for treatment. His temples are covered with electrocardiographic paste or jelly. In the case of a female patient with thick hair it is advisable that the hair from the temples be clipped. The electrodes are now closely applied to the patient's temples by adjusting the rubber band. The machine having already been connected with the house alternating current, we now connect the electrodes by connecting the electrode cords with the proper posts. The switch is now turned on to connect the house current to the machine. When this is done the indicator will light, showing that the switch is on. Next the selector switch is placed to the test position (direct current) and the resistance of the patient's head is read directly on the ohm meter. Usually the resistance varies from 100 to 1,000 ohms. When no resistance at all is found, it is a sure indication of a short circuit. A resistance higher than 700 or 800 ohms usually means poor contact, and when this is encountered either more paste should be applied or the electrodes moved about the patient's temples. The measurement of the resistance serves as an indication of the voltage to be given. In general, the lower the resistance, the lower the voltage used. The measurement of the resistance also indicates whether proper contact has been made.

Once we have obtained the resistance we turn the selector switch to the shock or alternating circuit. We now turn the potentiameter to the voltage we have decided to give. Usually in a new patient we start with 70 volts if the resistance is below 300, and with 80 volts if the resistance is above that. We then select the proper time, usually 0.1 second, and set the electronic timer accordingly. If necessary, the maximun current meter may also be adjusted. We are now ready to produce the shock. The mouthpiece is adjusted and the shock button pressed. As soon as this is done, the timer indicator goes on and stays on during the time the current passes. At the same time the milliampere meter should be read for the milliamperage that has passed. The fit is instantaneous, and the electrodes should be removed at once. Care must be exercised to keep the mouthpiece in place, because usually the patient opens his mouth at the beginning of a fit and loses the mouthpiece. We are now adopting a self-containing mouthpiece consisting of a piece of black rubber tubing about $\frac{1}{2}$ inch in diameter, the two ends of which are held together by a rubber washer, the tube being placed in the patient's mouth and around his neck. This new mouthpiece obviates its being held in place and is causing less biting of the tongue than the others.

As described above, the patient may show three responses to the first shock, namely, the blank reaction, petit mal, or grand mal. If one of the first two reactions is obtained, we proceed to give another shock after a 15-minute interval. In the second application we increase the voltage 10 to 15 volts. If we fail to produce a grand mal now, we wait for another day in which to achieve the result.

The milliamperage and the interim during which it traverses the patient's head causes the convulsion. We have obtained convulsions with an amperage as low as 400 milliamperes and have failed to obtain a convulsion with 1,200 milliamperes. Usually convulsions are produced by 600 to 1,000 milliamperes. To produce this output voltages between 90 to 115 are used. When no convulsions are produced with 125 volts, an increase in the time to 0.15 or 0.2 second is indicated.

SUMMARY

Electro-shock therapy is a safe procedure. It possesses decided advantages over the other convulsive therapies.

The complication incidence is markedly less than with insulin or metrazol therapy.

The results parallel those of metrazol therapy.

The apparatus and the methods of application have been described.

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(*Continued on page 204*)

THE SYMPTOMATIC RELIEF OF SPASTIC DISABILITIES WITH BETA-ERYTHROIDINE*

A PRELIMINARY REPORT

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Last spring attention was directed to beta-erythroidine as a drug useful in controlling the violence of metrazol treatments. During the course of an investigation[1] of erythroidine in this restricted field, the action of the drug naturally suggested itself as an agent of possible benefit to those patients hampered in their daily activities by stiff or spastic extremities due to organic nervous disorders. Although the investigation along this line is far from complete, the results appear to be sufficiently good to encourage others to inquire into the possibilities of beta-erythroidine hydrochloride† and some of its derivatives in fields similar to the present undertaking.

This drug is derived from the seeds of the Mexican plant, Erythrina americana, and some closely related subgroups. Chemically it is a true alkaloid[2] and possesses properties similar in many respects to curare.[3] Of outstanding interest, however, is the important difference that it is effective when taken by mouth. This is apparently the first time that a drug of verified curare-like action has been reported as being effective when administered orally. This short review deals with the types of cases in which beneficial results have been noted.

What is required of a candidate for erythroidine treatment? Primarily, he must present rigidity or spasticity, with disability of the upper motor neuron or extrapyramidal type. He must retain sufficient voluntary function to handle himself when freed of the rigidity. Or finally, he may suffer from dystonia musculorum deformans.

Dosages of beta-erythroidine hydrochloride are rather empirically established, the requirement of the individual patient being the best guide to the dose. Generally speaking, it varies from 200 mg. to 800 mg. as an initial dose (by mouth), and subsequent doses are usually about one half the original. Experience with one derivative of the drug, dihydro-beta-erythroidine hydrobromide, indicates that while the essential properties have been maintained, the potency has been greatly enhanced. Doses of this derivative are in the range of 10 to 25 mg. It is possible to "erythroidinize" patients as one would digitalize a cardiac patient by means of a large initial and smaller maintenance doses.

On these doses, some patients speak of a mild transitory dizziness lasting 10 to 15 minutes. One patient says he feels drowsy for 30 to 45 minutes. One patient among the 10 treated developed a mild urticarial reaction. These are the only side-effects that were noticed in these studies.

As a representative group of patients benefiting by erythroidine, the following are presented. A patient with parkinsonism of 12 years' duration with emprosthotonos, anteropulsion and marked tremor, since receiving erythroidine stands erect, walks, and rises from the sitting position with an alacrity impossible in her former untreated state. The tremor in this case is unaffected by erythroidine but may be controlled to a large degree by hyoscine.

A chronic encephalitic with hemiparkinsonism and athetosis of the other arm had his extrapyramidal rigidity relieved as in the case above, but the athetosis was unaffected.

A patient with Pott's disease of the thoracic spine with cord compression has been completely relieved of his complaints of "stiff legs and cramps in the muscles." Another patient with residual spasticity following removal of an unidentified type of spinal cord tumor finds relief from similar complaints. A patient with hematomyelia and one with syringomyelia with spasticity of the legs have received symptomatic motor relief.

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* From Gallinger Municipal Hospital and the Department of Neurology, George Washington University.

† Furnished through courtesy of Merck and Company, Rahway, N. J.

A patient with dystonia musculorum deformans with torticollis is able to rotate his head freely and is less troubled by his adventitious writhings.

A patient with Huntington's chorea and one with senile chorea have failed to respond to erythroidine.

While this group is admittedly small, it gives a fair sampling of the kinds of cases which may benefit from erythroidine.

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Offers evidence toxoplasma may be a cause of encephalitis. Pointing out that it has been abundantly demonstrated in recent years that acute nonsuppurative (not pus-producing) encephalitis (inflammation of the brain) may be produced by many causes, Albert B. Sabin, M.D., Cincinnati, reports in *The Journal of the American Medical Association* for March 1, 1941, what he believes to be evidence that the animal parasite organism, Toxoplasma, may be one of the causes of such encephalitis in children.

He reports two cases involving boys of 6 and 8 years of age, from one of whom the organism Toxoplasma was isolated from the blood and nervous system after death. The other boy recovered from the disease in ten days' time and Toxoplasma was isolated from guinea pigs inoculated with the boy's spinal fluid.

In both cases the symptoms were generalized convulsions, disorientation, fever and increase of certain white blood cells in the fluids of the spine and brain without rigidity of the neck.

Discussing the evidence that Toxoplasma was the causative agent, Dr. Sabin points out that not only was the organism isolated from the boy who died but also five of eight mice inoculated with material from this patient became infected with Toxoplasma. Six other mice were inoculated with body fluid from one of the first group of mice and all died. Moreover, the strain of Toxoplasma isolated from the fatal case produced infections in mice, guinea pigs, rabbits, chicks and rhesus monkeys.

Spinal fluid from the boy who recovered was inoculated into six mice and two guinea pigs. Toxoplasma was isolated from the guinea pigs, which died within a day of each other during the sixth week after inoculation. This strain, Dr. Sabin states, "was originally and even after several passages in guinea pigs practically nonvirulent (noninfective) for mice but became highly virulent after several mouse passages." The strains from both patients, he says, were immunologically identical with each other and with Toxoplasma of animal origin.

Pointing out that toxoplasmosis probably is transmitted to man from a reservoir of infection in lower animals, Dr. Sabin says: "Although there can now be no doubt that Toxoplasma can infect human beings, there is as yet no indication how frequent such infection is." The family of one of his two patients, he says, related that they had a half-grown cat in the house which became sick and had frequent convulsive seizures about the time the boy became ill. In the case of the other boy there was no history of exposure to animals.

"There is reason to believe," he suggests, "that toxoplasmic infection may exist as a disease with only systemic manifestations, suggesting that one's alertness in detecting this type of infection should not be limited to patients with signs pointing to involvement of the nervous system."

How to minimize loss of vitamin C when boiling vegetables. Although boiling vegetables reduces their vitamin C content, there are certain precautions that can be taken to make this loss as small as possible, Doris McCray, Cedar Rapids, Iowa, points out in *Hygeia, The Health Magazine.* Here is her advice:

"Keep the vegetable refrigerated until ready to use. Then wash, pare and cut into pieces at the last moment. Avoid soaking in cold water. Small pieces are best since they allow heat to penetrate at once, rendering the oxidative enzyme inactive more quickly. Add salt to the water, to season the vegetable while it cooks. Use as small an amount of water as practical, about one-half a cup, or enough to cover the bottom of the pan. Use a tight lid. Cook until tender, drain and save the vegetable juice. Serve as soon as possible."

DIFFERENTIAL DIAGNOSIS OF CONGENITAL AND RHEUMATIC HEART DISEASE IN CHILDREN*

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Rheumatic fever causes 90 per cent of heart disease in childhood after four. Congenital defects, with an occasional exception, account for the remainder. The recognition of these two general types of heart disease is usually not difficult, since each presents a characteristic group of physical signs. An accurate differential diagnosis between the two has an immediate application in the management of the individual case, as well as an important bearing upon the future course of events. For example, a diagnosis of rheumatic heart disease on the one hand indicates that the patient has, or has had, rheumatic fever, a disease essentially chronic in nature, characterized in childhood and adolescence by recurring bouts of rheumatic activity, each of which favors progressive valvular and myocardial injury. Therefore, it is encumbent upon the physician to observe the patient frequently and to study carefully any suspicious symptoms and signs whereby renewed activity may be recognized in order to start treatment promptly. On the other hand, a diagnosis of congenital heart disease implies fixed alterations in structure, the majority of which, beyond the age of infancy, are well borne for years with surprisingly little handicap to the heart and circulation. Hence, it is equally encumbent upon the physician in such instances not to overemphasize, as is often done, the prominence of murmurs or thrills and thereby unnecessarily restrict the activities of these patients.

It is the purpose of the following discussion to contrast the clinical signs of rheumatic heart disease with those of the two congenital defects of the heart most frequently encountered in general practice.

RHEUMATIC HEART DISEASE

The characteristic pattern presented by the physical signs of rheumatic heart disease is remarkably constant and is due primarily to the uniformity with which the rheumatic process deforms the mitral, and to a less extent, the aortic valves.

In this connection it is well to recall certain pathologic findings in rheumatic valve injury in childhood.[1] In a series of 100 patients under 21 years of age with rheumatic heart disease who succumbed to their disease, necropsy revealed the following incidence of valve injury:

Total Cases	Mitral	Aortic	Tricuspid	Pulmonary	None
100	98	71	31	5	1

These findings are in close agreement with the experience of Cary Coombs[2] as well as the figures of others derived from postmortem findings in adults. In general, it is evident that when rheumatic endocarditis is present, the mitral valve is involved. In the above mentioned group only one exceptional instance of aortic without coexisting mitral involvement was encountered. It was also noted in this same series that when combined with other valve injury the mitral involvement is usually greatest in extent, but in later life fibrotic changes and calcification may alter this relationship. Combined mitral and aortic involvement occurred in 45 instances; the mitral, aortic and tricuspid valves were involved in 20; all four valves were injured 5 times; and the mitral and tricuspid valves were involved without other valve lesions in 5 instances. One exceptional instance was noted in which all valves escaped, but study of microscopic sections of the heart revealed a widespread rheumatic myocarditis.

With this background of the necropsy findings in fatal cases we approach the physical signs of rheumatic heart disease in childhood and adolescence. The clinical pattern, as is to be expected, is essentially that of involvement of the mitral and the aortic valves. The physical signs of such are usually evident early after the onset of rheumatic fever, and in some instances the appearance of characteristic murmurs during an otherwise obscure illness may direct attention for the first time to the rheumatic nature of the patient's poor health.

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* Read at the Annual Scientific Assembly of the Society, October 15, 1940.

Signs of Mitral Valve Involvement. A loud blowing systolic murmur of maximum intensity at the cardiac apex is the most common single auscultatory finding. It often tends to merge with the first heart sound and is diagrammatically shown in the first section of figure 1. An associated systolic thrill is rare. This murmur, when it persists after active rheumatic fever has subsided, generally signifies mitral valve deformity and regurgitation. It is well to remember that lesser degrees of mitral regurgitation may be present temporarily in children as a result of mechanisms other than actual deformity of the valve.

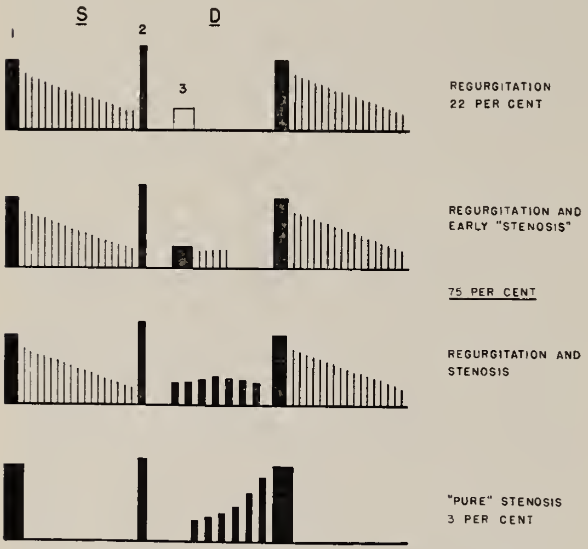


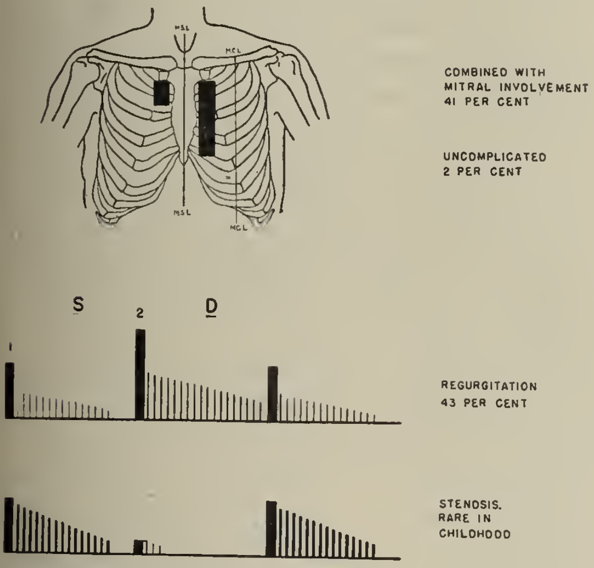
Fig 1. Auscultatory signs of mitral valve involvement

In addition to this loud systolic murmur, a prolongation of the normal third heart sound into a minimal mitral diastolic murmur also heard best at the cardiac apex, as shown in the second diagram of figure 1, is common, especially if there is cardiac enlargement (or dilatation) relatively early in the course of rheumatic heart disease. This auscultatory finding was at one time considered evidence of early stenosis of the valve, but recent studies indicate that it is due to factors other than deformity of the valve, most important of which is cardiac dilatation.[1, 3] In some it disappears later with subsidence of active rheumatic fever, whereas in others it progresses to the next stage.

A more pronounced rumbling murmur in middle or late diastole at the cardiac apex associated with the previously described systolic murmur indicates considerable deformity of the mitral cusps and probably actual stenosis as well as regurgitation in many, especially if accompanied by a diastolic thrill and an accentuation of the first heart sound. However, here again dilatation of the heart, if marked, may in some instances still be largely responsible for this diastolic rumble. It is evident from previous studies and from the foregoing remarks that an appraisal of the extent of mitral valve deformity in terms of anatomic stenosis is somewhat unreliable if active rheumatism and cardiac dilatation of considerable degree exist.

With the passage of years and the actual development of anatomic mitral stenosis, there is a tendency for the apical systolic murmur (mitral regurgitation) to become less prominent, and for the diastolic murmur to acquire a coarser rolling character ending with a characteristic crescendo in a slapping first sound. A corresponding diastolic thrill and shock at the cardiac apex are usually palpable in well advanced cases. Accentuation of the pulmonary second sound is the rule. In some instances no systolic murmur is audible, as indicated in the last diagram of figure 1, and "pure" or "adult" mitral stenosis is said to be present. However, this so-called pure form (by auscultation) of mitral stenosis need not always represent a high degree of actual narrowing of the orifice, since relatively slight degrees of even this pure form exist. This particular lesion usually requires a considerable length of time to develop and hence is infrequently encountered in childhood. More often than not it is the result of the mildest type of rheumatic fever, and frequently no clear history of an attack can be obtained.

Signs of Aortic Valve Involvement. Rheumatic involvement of the aortic valve cusps occurs in almost half the cases of rheumatic heart disease and is manifested by varying degrees of aortic regurgitation in the younger group. In the majority it is associated with coëxisting disease of the mitral valve, but occasionally the aortic valve alone is involved. The physical signs of slight degrees of aortic regurgitation are often overlooked because of the prominence of coexisting signs of mitral valve disease in the same patient.


MSL
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COMBINED WITH MITRAL INVOLVEMENT 41 PER CENT
UNCOMPLICATED 2 PER CENT
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1
REGURGITATION 43 PER CENT
STENOSIS. RARE IN CHILDHOOD

FIG. 2. Auscultatory signs of aortic valve involvement

The characteristic murmur is diastolic, high-pitched (blowing) in character, appearing immediately after the second sound at the base of the heart, as indicated in figure 2. In the majority of instances it is best heard to the left of the midsternal region in the second, third and fourth interspaces. It is important to remember that if it is of slight intensity it may be heard only here near the sternal border, and usually best with the patient in the upright position. Occasionally, however, it can be appreciated best with the patient recumbent, probably because of the quieter heart action when reclining.

In the majority of instances of aortic regurgitation there is in addition to the characteristic diastolic murmur an accompanying basal systolic murmur of lesser degree, usually best heard (in contrast to the diastolic murmur) to the right of the upper sternum and the result of early aortic stenosis. In the course of years, as in the evolution of mitral valve disease, the signs of aortic regurgitation may become less pronounced and accompanied by increasing signs of aortic stenosis, namely, an increase in intensity and harshness of the systolic murmur with, in the majority, the later appearance of a systolic thrill and a diminution or disappearance of the aortic second sound. This gradual change, when it occurs, requires many years before a high degree of stenosis becomes established and hence is rarely encountered in childhood or even adolescence.

A perspective of the clinical types of valvular deformity encountered in childhood is well shown by the series of 709 children with rheumatic heart disease which Dr. T. D. Jones and I studied in 1935 (unpublished data) (figures 1 and 2). Auscultatory signs of mitral involvement were present in 695 (98 per cent). The remaining 14 patients (2 per cent) of the series had aortic valve involvement without recognized signs of mitral disease. In those with mitral involvement, mitral regurgitation (apical systolic murmur) was present in 22 per cent; regurgitation and stenosis (the latter with the reservations previously noted as regards the significance of apical diastolic murmurs) in 75 per cent; and "pure" mitral stenosis in 3 per cent. Of these 695 patients with mitral valve deformity, 290 also had aortic regurgitation of varying degrees. It is to be noted that in comparing the physical signs in this clinical group with the postmortem findings previously mentioned, there is close agreement (as would be expected) in regard to mitral valve injury, a fair correlation in regard to aortic valve injury, but a notable absence of signs whereby tricuspid and pulmonary valve injury can be recognized. In general, it may be said that in childhood (and often in adults) rheumatic involvement of the tricuspid valve can rarely be recognized clinically because it is masked by the signs of coëxisting mitral disease. To an even greater extent is the slight involvement of the pulmonary valve occasionally found at post mortem obscured by the gross involvement of the other valves. No isolated instance of uncomplicated involvement of either the tricuspid or of the pulmonary valve has been encountered in either series.

In connection with the foregoing discussion, largely limited here to the auscultatory signs of rheumatic heart disease in childhood, the degree of coëxisting enlargement of the heart, broadly speaking, is the most reliable index of the extent of cardiac damage and the future limitations of the patient.

CONGENITAL HEART DISEASE

It is unfortunate that the conception still persists in the minds of many that the diagnosis of congenital heart disease is to be made only in the presence of cyanosis. This is a most erroneous idea, since actually those without cyanosis far exceed in number those with cyanosis. The former are often overlooked because they usually have no symptoms and the majority are able to lead normal lives. Their physical signs, especially as regards murmurs and thrills, are strikingly out of proportion to their actual handicap, and a faulty interpretation on this score often leads to unnecessary restrictions. Actually, the chief hazard which the majority of this acyanotic group face in later life is not heart failure but subacute bacterial endocarditis.

It is of some practical importance then for physicians in general practice, and for internists in particular, to be familiar with the two most commonly encountered defects of the heart, neither of which is rare, and both of which can be recognized in most instances by clear-cut physical signs which sharply distinguish them from acquired heart disease. Cyanosis when present always indicates a serious type of congenital heart disease, usually the tetralogy of Fallot, which fortunately is infrequent after the age of infancy as compared with the following two acyanotic conditions.

Interventricular Septum Defect. This is the commonest congenital lesion encountered in children of school age and in the majority the physical signs are diagnostic at first glance. In reviewing a series of congenital cardiac cases in school children Perry[4] noted that 35 per cent were of this type, and Muir and Brown[5] with a similar age group found this lesion in 40 per cent. An absence of symptoms with well marked physical signs is a characteristic feature. The original and remarkably complete description by Roger in 1879[6] follows: "There is a developmental defect of the heart from which cyanosis does not result despite a communication between the two ventricular cavities. . . . It consists of an opening in the interventricular septum. It is revealed only on auscultation by a physical sign with very definite characters; this is a long loud murmur. . . . It begins in systole and is prolonged to such an extent as to cover entirely the natural ticktack of the heart sounds. It has its maximum intensity not at the apex . . . but over the upper third of the precordial region. It is chiefly medial in position like the septum itself, and from this central position it diminishes in intensity uniformly as one moves the stethoscope over the chest. It coincides with no other sign of heart disease except a harsh thrill which accompanies it. This murmur is the pathognomonic sign of an interventricular septal defect."

There is little to be added to this first description of the characteristic murmur by Roger. The heart is usually not enlarged, the functional reserve is not seriously disturbed, and because of lack of symptoms the majority of cases are discovered accidentally. It is important to emphasize that the pressure gradient between the two ventricles is such that here the flow of blood is from the left ventricle (arterial) back through the defect into the lower pressure area of the right ventricle (venous) and hence cyanosis is not present, although under unusual circumstances or as a terminal event a slight degree of duskiness may appear. These patients are capable of and should be encouraged to lead normally active lives with perhaps a few minor restrictions in regard to unusually vigorous activities. Particular care of respiratory infections should be stressed because in some instances they apparently initiate secondary bacterial endocarditis in susceptible individuals. This represents the most serious hazard which these patients face in the future, since it occurs later as a fatal complication in approximately 25 per cent. It is to be hoped that among the newer chemotherapeutic agents one may be forthcoming which will prove effective against the nonhemolytic streptococci responsible for this fatal complication.

Patent Ductus Arteriosus. This cardiovascular defect is perhaps the second commonest lesion found in children of school age. Here, as above, the abnormal flow of blood is backward from the arterial side (aorta) through the ductus to the venous side (pulmonary artery), and hence, except under unusual circumstances, no cyanosis results. Symptoms are usually absent, but if the communication is large, palpitation or dyspnea on exertion may occur. The physical signs are striking and readily recognized. The murmur is usually pathognomonic; it is maximal in the second left interspace and is loud, with a harsh, sometimes humming quality. It is most intense in systole but usually extends throughout the cardiac cycle as a continuous murmur. This characteristic murmur is usually accompanied in systole by a thrill. A striking accentuation of the pulmonary second sound is to be expected, and fullness of the pulmonary conus both by percussion and by X-ray completes the picture. The electrocardiogram is most often normal. If of considerable size, the reflux of blood through the ductus may result in considerable strain upon the heart. In such instances, surgical ligation has been successfully accomplished. On the other hand, lesser degrees of patency are usually well borne and from such the chief danger is secondary bacterial endarteritis. Whether or not surgical ligation of all would lessen this hazard remains to be seen, but for the present it seems best to reserve this procedure only for those in whom the degree of regurgitation through the ductus is seriously embarrassing the heart and circulation.

Concluding Remarks

Heart disease in childhood, the result of rheumatic fever, is recognized largely by the physical signs of involvement of the mitral and the aortic valves. X-ray, electrocardiograms, and other special methods of study are helpful, but in the majority percussion, palpation, and auscultation are adequate.

In the foregoing discussion the characteristic signs, especially auscultatory, of rheumatic heart disease have been contrasted with those of the two most frequent cardiovascular anomalies encountered in children of school age, namely, ventricular septal defect and patency of the ductus arteriosus.

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(*Continued on page 204*)

THE SEA NETTLE

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The sea nettle or "jellyfish" belongs to the Coelenterata group of animals and is related to the coral, sea anemone, sea fan and hydroid. Nearly all are marine varieties, either pelagic or sedentary, while a few Hydrozoa inhabit fresh or brackish water. These curious creatures have a great diversity of form and coloration.

The Coelenterata are of world-wide distribution of which the greater majority are marine, with a few kinds inhabiting only brackish or fresh water. Many live in the littoral zone between tide marks, while some occur in extremely deep water. Many live in the open sea, some floating and some swimming. A number are perennial, such as the sea anemones known to live 70 years or more, while others are just seasonal.

They reproduce in a variety of ways. They not only produce eggs and spermatozoa, which after union develop new creatures, but also have a strong tendency toward vegetative or asexual means of reproduction. Correlated with this is a marked ability to regenerate lost parts.[1] Polyps may give rise by budding to other polyps or to medusae. Medusae give rise to other medusae by budding, but never to polyps, since these are always developed from eggs or other polyps.

There are two main types of shape, both founded upon the gastrula plan: the polyp and medusa. The same animal may be for part of its life a polyp and for the other part a medusa. The polyp develops from the egg and itself produces no sex organs. However, it produces vegetative buds which develop into medusa, and these in turn develop eggs and spermatozoa which, after fertilization, initiate further polyps. This regular alternation between polyp and medusa is termed "metagenesis" or "alternation of generations." Another characteristic is polymorphism, since colonies of individuals are found which are composed of several forms of polyps and medusae.

The marine forms of sea nettles or jellyfishes are the medusa stage of growth and are widely distributed, occurring from the arctic and antarctic regions to the tropics. Where there are favorable circumstances, they often occur in large numbers, thus attracting the attention of bathers and fishermen as they drift near the surface of the water. Because the soft gelatinous body is composed of protoplasm which is about 90 per cent water, they are called "jellyfish." Because the discharge of the nematocysts produces a nettling effect, they have received the name, "sea nettle." When the nettle is touched, it causes the surrounding tissues to suddenly contract and discharge a coiled thread.

The ovoid, stinging capsules are explosive organs containing a hollow thread, which is a coiled, extremely fine, capillary tube. The wall of the capsule and the thread are continuous at one pole of the capsule. The cell (cnidoblast) bears a fine, trigger hair known as a "cnidocil" at the free surface. Contact with a foreign body causes an explosion of the capsule. The end of the thread carries spirally arranged barbs which assist the thread by puncturing the tissues of the prey and carry the poison which enters the wound it has made. This "cnida" or nematocyst may also contain a coiled, spring-like structure which resists the tearing away of the thread by the struggling prey. The sea anemones have spirocysts, whose evaginated thread is adhesive, but not poisonous. Contact with the common species of the middle Atlantic coast is not ordinarily dangerous, but with some of the larger forms of the tropics, serious or even fatal results may follow.

The Coelenterata are animals that have only one internal cavity or coelenteron which opens to the exterior by a single aperture or mouth.

Waste substances are ejected through the mouth instead of through a second opening as in the higher animals. They are radially symmetrical, having the various parts arranged about the radii of a circle with the mouth as the center. These may be free-swimming organisms moving by means of cilia, or they may be contained within the coelenteron of the parent and be born as young polyps.

Jellyfishes are pelagic creatures which swim through the water by rhythmic muscular contractions of the umbrella.[2] They are carnivorous and capture their food from the plankton, entangling it with slimy secretions and then carrying it to the mouth by ciliary action. Larger prey such as fish are seized by tentacles which possess stinging and adhesive powers of a high order. These tentacles carry poisonous threads which are shot forth in countless numbers, being everted by explosive capsules. These microscopic threads have astonishing powers of penetration, and the poison they carry is strong enough to paralyze the prey suitable to each species. The penetration of the threads enables the tentacles to adhere to the prey, and the threads also may be covered with sticky material which assists in conveying the prey to the extensile mouth. Also, there are internal stinging organs.

Anthozoa (flower animals) may form a strong skeleton known as coral or lack a hard support such as the sea anemones. They may consist of a single polyp, but more frequently they form a colony of a number of polyps permanently united together. They correspond to the polyp generation of the other coelenterates which exhibit both polyps and medusae alternately during its life cycle. There is a radial appearance in common with that exhibited by Coelenterata in general and also a fundamental bilateral symmetry. The sea fans, sea pens, sea anemones, and corals belong to this group of animals with flower-like shape and brilliant colors.

The Scyphozoa have larger and more substantial medusae than the Hydrozoa. Some have a diameter of 7 feet across the bell and are the largest known coelenterates. The fertilized egg develops into a polyp of distinctive structure known as a scyphistoma, a small trumpet-like creature with long marginal tentacles which attaches itself by its aboral end to a foreign support. This polyp can produce rootlets from which new polyps are budded. The scyphistoma stage at a certain time of year, depending on its supply of food, changes into disc-like segments which are small flattened medusae with 8 long arms termed the ephyra. This ephyra develops into the adult medusa.

The Scyphozoa are cruciform in their symmetry; all their organs are symmetrically arranged with relation to 4 main radii at right angles to each other. They have no velum as do the Hydrozoa and have hollow tentaculocysts of a distinctive nature around the bell margin.

The Ctenophora are curious marine animals which are mostly pelagic. They swim with the mouth forward by rows of comb-like plates which are attached to the body in 8 vertically arranged series and not by repeated contractions of the bell-like body as the other coelenterate jellyfishes. Instead of explosive capsules they have colloblasts, which are cells adhering to the prey.

The best known jellyfish of the first class is the Portuguese man-of-war, Physalia of the family Physaliidae, which is found in the Gulf Stream. This form is provided with a large pneumatophore, or air chamber, from 4 to 6 inches long, beautifully colored with pink and blue, which enables it to float on the water. It derives its name from the appearance of this float, which resembles a small upturned boat. The tentacles are sometimes 45 feet long and are provided with powerful stinging organs. Its sting produces more serious results than that of other species of jellyfish in American waters. The more common sea nettles belong to the class, Scyphozoa. Of these, Aurelia is the best known, which often washes ashore in great numbers.

The sea nettle is complex in structure, even though composed mostly of water. The convex umbrella has a circular outline which presents deep notches containing 2 processes, between which are a fringe of marginal tentacles. The mouth is a 4-sided opening in the center of the lower surface around which are the oral arms processes. The 4 gonads, or reproductive organs, which are conspicuously colored, are arranged about the mouth. The mouth connects a short channel with the stomach, which occupies the anterior of the umbrella.[3] Parallel with the inner concave border of the gonads is a row of delicate gastric filaments abundantly supplied with stinging capsules, which kill or paralyze the live prey. The food consists of the minute crustaceans and larvae of the plankton, while the larger varieties capture large crustaceans and small fish.

The eggs are discharged into the water where they are fertilized and then develop into a swimming embryo or a planula. This planula later becomes attached to the bottom and develops into a polyp with 16 tentacles. This polyp is called the scyphula or scyphistoma and grows to a height of about half an inch. It may multiply by budding or divide by transverse fission until the polyp appears like a pile of saucers. These saucers finally separate, turn upside down and swim about as a small jellyfish, known as an ephyra. By development, this form changes into the adult jellyfish.

The class Scyphozoa is further divided into 4 groups, or orders, and 3 suborders. These orders differ from each other in the shape of the umbrellas and the number of tentacles. Some of the Discomedusae to which the Chesapeake Bay varieties belong are very large. Cyanea arctica may reach a diameter of over 6 feet with tentacles over 100 feet in length. Most of this group of jellyfishes are found swimming near the surface. Some varieties rest on mud or coral reefs, while others are attached. The swimming movements are made by contractions of the muscles located around the lower edge of the umbrella.

The sea nettles in the Ctenophora group are relatively small and are shaped like a melon or a balloon. The short comb-like cilia are arranged along meridional bands extending practically the entire length. While the Ctenophora are moving alowly, the cilia (or swimming plates) produce an iridescent effect. The reproduction of these forms differs from that of the Scyphozoa in that both male and female elements are found in the same individual. Fertilization takes place in the water after the eggs have been discharged. Ctenophores are found in all seas from the arctic regions to the tropics. Sometimes they may be so abundant as to impede the progress of small boats. The stinging organs are often replaced by adhesive cells which cling to the small animals used as food. Certain sea anemones and sea fans of the coelenterates are known in the North Pacific, but usually the name is applied to the Scyphozoa.

The best method for the control of jellyfish is to fence off small areas of a bathing beach with fishing nets of $\frac{1}{4}$ to $\frac{1}{2}$ inch mesh or, where the water is smooth and sufficient sunlight is present, they may be taken out with a dip net from boats.

The symptoms produced vary in a great degree in accordance with the amount of contact with the jellyfish. The duration of pain is usually from 6 to 24 hours. The sting is due to practically the same substance which renders bee stings so painful, and similar remedies are used for treating both, such as bicarbonate of soda and dilute household ammonia, although very little benefit is realized.

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ROCKY MOUNTAIN SPOTTED FEVER

REPORT OF A CASE DEVELOPED POSTPARTUM

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Uncomplicated cases of Rocky Mountain spotted fever are difficult to recognize in the early stage, and after the appearance of the rash the suspicion may be more difficult to confirm, especially when one bears in mind that the agglutination test for this disease is not specific and quite often remains negative even to the end. The rash, although believed to be characteristic, is variable and may be misleading in the first day or two.

Because of its unusual clinical course and manifestations the following case is presented. A similar case could not be found in the literature.

Report of Case

Mrs. P. T., a white female, aged 39 years, was admitted to Georgetown University Hospital, July 21, 1939. On this day she had a very uneventful, normal delivery of a baby boy weighing 7 pounds 12 ounces. The postpartum period was entirely uneventful until July 26, 1939, the fifth day postpartum, at which time the temperature was 100°F., the pulse rate 90, and the respiratory rate 20. Nothing was found at this time to account for the rise in temperature. During the following 3 days the temperature was definitely septic in character, reaching a higher level each day. The pulse and respiratory rates increased in proportion. During this period sulfanilamide was given in the belief that a puerperal infection had ensued.

On July 30, which was the ninth postpartum day and the fifth day of the septic temperature, rash was found on the lower extremities. The following day a similar rash was found on the abdomen, thorax and upper extremities. It was dull red and macular and was so irregularly scattered that it did not resemble the rash of Rocky Mountain spotted fever.

It was at this time that the following history was elicited. The patient lived in a heavily infested tick region. She was in the habit of "de-ticking" herself and members of her family daily and sometimes as often as three or four times a day. She recalled that about July 12, which was 9 days before admission, she was bitten by a tick which had remained attached "only a few hours."

On July 31 the urinalysis and the Weil-Felix agglutination test were negative. The blood showed 86 per cent hemoglobin, 4,350,000 red blood cells and 11,100 white blood cells with 85 per cent polymorphonuclear neutrophiles, 13 per cent lymphocytes, and 2 per cent monocytes. On this day the patient appeared to be more stuporous than on the preceding day. Temperature was 104°F., the pulse rate 110, and the respiratory rate 22 at 4 p.m. On August 2 the patient was comatose, and the temperature was 105.8°F., the pulse rate 120, and the respiratory rate 24. She was slightly jaundiced. On August 3 the blood picture was practically the same as given above. The urine now showed albumen ++ with leukocytes + and red blood cells ±. The rash was more prominent and petechial in character over the upper and lower extremities, the thorax and the abdomen. It did not disappear on pressure. It resembled the petechial hemorrhage of thrombocytopenic purpura. The spleen was barely palpable. On August 5 the rash was more extensive and more prominent and the jaundice more marked. The Van den Bergh test showed 8.7 mg. of bilirubin, and the icterus index was 80. The Weil-Felix reaction was now positive in 1–80 dilution and slightly positive in 1–160 dilution. The blood platelets numbered 88,000 per cu. mm. The patient was in marked coma. The temperature was 105.6°F., the pulse rate 140, and the respiratory rate 32. On August 7 the patient's condition was worse. The jaundice was more marked, and the rash appeared more hemorrhagic, the patient now bleeding from the gums, with ecchymosis and swelling of the left eye. On August 8 the Weil-Felix reaction was positive in 1–5120 dilution. On August 9 the patient died at 12:50 a. m.

Throughout the course of her illness the patient received 100 grains of sulfanilamide, 50 c.c. of Neoprontysil and 37½ grains of sulfapyridine, and blood transfusions and glucose solution intravenously.

Blood cultures were negative. Guinea pig inoculation showed positive findings for Rocky Mountain spotted fever.*

Autopsy performed on August 9, 1939 revealed a generalized icterus with a diffuse pinpoint hemorrhagic rash over the entire body. The left eye was swollen and the conjunctiva ecchymotic, apparently due to a subconjunctival hemorrhage. Coagulated blood was present around the teeth and on their buccal surface. The thoracic viscera were essentially negative. The abdominal viscera showed a normal-sized liver with marked congestion. The spleen was slightly larger than normal and on section was firm, dark red and with the normal markings entirely obliterated. The pelvic organs showed the uterus to be practically involuted and the cavity filled with an adherent blood clot. The subdural space contained an excess of spinal fluid, and the brain was markedly edematous. No other lesions were found.

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* I wish to express my appreciation to Dr. N. H. Topping of the National Institute of Health, Washington, D. C., for carrying out the infection tests.

Microscopic examination of the tissues by Dr. R. D. Lillie of the National Institute of Health showed the following:

Heart: There are many small foci of infiltration in the epicardial fat, in the interfascicular connective tissue and among the muscle fibers, formed chiefly by intact lymphocytes and some monocytes, sometimes with karyorrhexis and phagocytosis of nuclear debris by macrophages. The heart muscle fibers are sharply cross striated and contain a moderate amount of brown granular epinuclear pigment. Some of the foci of denser infiltration appear to include swollen karyorrhectic endothelial cells, as though resulting from capillary endothelial necrosis. Some mitotic lymphoid cells, a few mast cells, and occasional eosinophils are present in the cellular exudate.

Lung: One section shows slight congestion, a few foci of perivascular lymphocyte infiltration, and some pus and blood in the bronchi. In a second section bronchial exudate is more profuse, more purulent, and extends into isolated atria and alveoli.

Liver: There is slight to moderate centrolobular congestion, irregular periportal lymphocyte infiltration, and an occasional small focus of necrosis (0.5 mm.), in which cells and capillaries are replaced by a fibrinoid mass.

Pancreas: No lesions are found.

Spleen: This shows atrophic and hypoplastic follicles, engorged pulp focally and irregularly infiltrated by lymphocytes and large basophilic lymphoid cells with vesicular nuclei and prominent nucleoli, sometimes multinucleate. Here and there in the pulp are patches of accumulation of pyknotic nuclear fragments, apparently picked up by sinus reticuloendothelium and some unquestionably free. These resemble normoblast nuclei.

Rib Marrow: This is congested and cellular, with quite numerous myeloblasts, predominant myelocytes, a few neutrophilic leukocytes or metamyelocytes, moderate numbers of eosinophils and megakaryocytes, rather few erythroblasts and normoblasts, and some littoral cell erythrophagia.

Adrenals: These have a congested medulla, an occasional small focus of slight lymphocyte infiltration, and a normal cortex with little lipoid evident (paraffin sections).

Kidney: Some of the glomerular capsules are distended with, and many convoluted tubules contain granular oxyphil to greenish-brown exudate. The lining epithelium is cloudy and slightly swollen.

Bladder: The mucosa is congested and slightly edematous, with a few small foci of perivascular lymphocyte infiltration.

Uterus: This is an involuting puerperal organ, with irregular interfascicular scarring in the myometrium, irregular congestion and much focal interstitial perivascular infiltration, chiefly by lymphocytes. Part shows the endometrium covered by columnar epithelium with a few subjacent glands. Part shows a bulky fibrinous mass on the endometrial surface, under which is an area of hyalinizing and sloughing, probably decidual tissue, without marginal leukocyte accumulation.

Breast: This shows lactation hyperplasia and a few foci of interstitial lymphocyte infiltration.

Skeletal Muscle: There are no lesions.

Skin (Chest): Scattered small foci of pericapillary lymphocyte infiltration are noted in derma. There is no thrombosis, hemorrhage or necrosis.

Brain: Sections were made from 68 areas. Of these 41 showed no focal lesions, the remainder not over 2 or 3 to a section. Thirty-eight focal lesions were noted. Vessel sheath infiltration was present in 18, by lymphocytes in 12, by pigment phagocytes in 5, and by monocytes in 1. Proliferative endothelial and adventitial reactions were present in 7, mixed with lymphocyte infiltration in 1, accompanied by thrombosis and endothelial necrosis in 2, and alone in 4; there are 1 pericapillary hemorrhage, 1 focus of demyelination and foam-cell infiltration, 1 thrombosed necrotic arteriole, and 10 perivascular glia "nodes." Lesions are more numerous in brain stem than in the cerebral or cerebellar cortex.

DISCUSSION

The occurrence of Rocky Mountain spotted fever in a postpartum patient is a rare accident. It presented the opportunity of observing several interesting facts which have not been previously reported. The patient was bitten by a tick, July 12, 1939 and delivered a normal male infant, July 21, 1939. This interval of 9 days must be admitted as being a part of the incubation period of the disease. During this period the infant, still in utero, was being nourished by the mother's blood. A natural question then would be: "Did the baby have any evidence of the disease at birth or did the disease develop later?" Both questions must be answered negatively. From July 23, 1939 to and including July 29, 1939 the baby was nursed by his mother. After the last date the mother was isolated because of the rash. The baby apparently was not affected.

Many interesting points for speculation arise from these two facts.

1. Are full term normal infants immune to the disease?
2. Was the organism prevented from entering the infant by the placental filter?
3. Are the mammary glands also filters to this organism, or is the secretion of the glands detrimental to the organism?
4. If the glandular secretions did convey the organism, what effect do the gastrointestinal secretions have upon it?

These are the more pertinent questions arising in this case and, of course, cannot be answered at the present time.

The peculiar purpuric rash together with bleeding from the gums was undoubtedly due to the lowered number of thrombocytes. This thrombocytopenea, however, is not the usual finding in spotted fever, and I am inclined to accuse the medication used in this case as the etiologic agent for the low platelet count. However, this assumption is made rather hesitantly, because throughout the course of the patient's illness the hemoglobin, red and white blood cell counts remained practically constant.

SUMMARY

A case of Rocky Mountain spotted fever developing during a postpartum period is reported. The unusual skin manifestations and bleeding from the mucous membranes together with a generalized icterus and thrombocytopenia are of great interest.

The absence of any evidence of the disease in the infant gives considerable room for speculation.

The guinea pig infection tests and the Weil-Felix agglutination tests were definitely positive for the disease and consistent with the autopsy findings.

Hygeia author warns against the risks of undulant fever. Even persons whose usual milk supply is pasteurized may be in danger of contracting undulant fever, also called brucellosis, from such sources as a soda fountain beverage in some small community in the course of a motor trip, or cream in coffee at a resort hotel, HAROLD J. HARRIS, M.D., Westport, N. Y., warns in the March, 1941 issue of *Hygeia, The Health Magazine.*

In pointing out the necessity of precautions against this disease, which is transmitted to human beings through germs in unpasteurized milk, Dr. Harris declares: "The label on the bottle from a reliable dairy stating that the milk is pasteurized is the only safe guarantee. No vague assurance that the herd producing the milk has been tested should be enough. The test may have been for tuberculosis, not for contagious abortion (a term for undulant fever in cattle).

"Sample group testing seems to indicate that about 10 per cent of the population has become infected with the germ and cases have been reported from all over the civilized world. Of those infected about 1 per cent are actively ill; the rest, while harboring the germ in their tissues, may never develop serious illness, or if they do, it may be only evanescently following some depleting, resistance-destroying experience. Coexistence with other diseases may bring serious results.

"Like syphilis, undulant fever is a great masquerader, appearing under many guises. Two cases of brucellosis rarely act alike. Until quite recently only the acute form was recognized. Since the introduction of more accurate tests, the chronic form is known to be far more common than the acute. In the chronic form, the one symptom common to all patients is fatigue."

Obtains relief from sinus infections. A nasal spray of the sodium salt of sulfathiazole was found to bring greater relief from the symptoms of chronic sinus infection than any other preparation he has used, FREDERICK MYLES TURNBULL, M.D., Los Angeles, reports in *The Journal of the American Medical Association* for April 26, 1941.

He used the sulfathiazole spray for 47 patients with chronic sinusitis and 40 of them reported definite improvement and relief of symptoms. On 4 of the remaining patients the author has no report; of the 3 reporting no improvement, 2 had hay fever and 1 was fighting an influenza infection and at the present time, he says, is showing improvement.

Of the 40 improved patients, 20 showed an increase in drainage, with definite relief of symptoms (congestion, fulness, heaviness and pressure headaches) and opening of the nasal passages. Twenty reported no increase in discharge, but nevertheless there was relief of symptoms. None of the 47 complained of sneezing as an aftermath of the treatment. There were no toxic (poisonous) symptoms whatever, even when the solution had been used as a nasal spray over a period of five months.

Dr. Turnbull believes that the results obtained in chronic sinusitis "seem to justify further investigation and would also suggest investigation in other involvements due to staphylococcic infections on account of the solubility of the sodium salt [of sulfathiazole]."

EDITORIALS

WE EXPERIMENT WITH MEDICAL CARE PLANS

QUESTION: Is it true that the Medical Society of the District of Columbia or its members have done nothing to assist the low wage-earner to obtain medical care regardless of his ability to pay for it?

ANSWER: Committees of the Medical Society have studied this problem for a long time. As a matter of fact, three years before Group Health Association, Inc., had been heard of, the Society, through its Committee on Coördination of Medical Resources devoted many hours and innumerable evenings to organizing the Medical-Dental Service Bureau and the Central Admitting Bureau.

Q. What was the Medical-Dental Service Bureau?

A. A non-profit organization established for the sole purpose of aiding people with catastrophic illnesses to pay all expenses incurred by sickness on the deferred monthly payment basis. Under an arrangement with physicians and hospitals, bills were sent to the Bureau, which determined how much the patient's income would permit him to pay over a period of eight or ten months. If the total amount of these bills was more than he could afford on a deferred payment basis, the various creditors, except the hospitals, were asked to reduce their bills to an amount that the patient could pay. The Bureau deducted 10 per cent of the amounts collected for hospitals and doctors to pay for the operation of the Bureau. Thus, the doctors not only reduced their charges, often drastically, but also permitted a further 10 per cent reduction to enable the Bureau to function.

Q. What happened to the Bureau?

A. It functioned quite well for two years but got into financial difficulties because there was not enough use made of it by the public. Now it no longer exists as a separate bureau, but the organization known as Health Security Administration, which is really an outgrowth of the Central Admitting Bureau for Hospitals, still gives the same service to those desirous of help by the method used by the Medical-Dental Service Bureau.

Q. What was the Central Admitting Bureau for Hospitals?

A. The Bureau was developed by the Medical Society as an agency of the Community Chest for the purpose of helping people who could not pay in full for hospitalization to obtain the necessary hospital care at reduced rates, the Community Chest defraying the balance, which was often a major portion of it. Members of the attending or visiting staffs of hospitals rendered medical care in these cases without compensation. Laboratory and X-ray fees were often negligible for these patients. This bureau is still functioning as a department in the Health Security Administration and is rendering an outstanding community service.

Q. What is Group Hospitalization, Inc.?

A. A non-profit corporation which for a very small monthly fee provides three weeks' hospitalization the first year to subscribers. Additional benefits accumulate to subscribers in succeeding years. Under this plan the patient selects and pays his own physician. The Medical Society endorsed this plan and aided with its development. Several of the directors are members of the Medical Society, one of whom is nominated by the Society's Executive Board. As is well known, this organization is functioning very successfully.

Q. What was Mutual Health Service?

A. It was a prepayment plan to provide medical services to subscribing groups. Several hundred members of the Medical Society, both general practitioners and specialists, agreed to participate in this plan.

Q. Why was this organization short-lived?

A. Because of the lack of public interest. More than 26,000 persons employed in the government and business establishments of Washington were canvassed. Numerous eligible groups were addressed by the Administrator of the Service and several conferences were held with representatives of groups who, it was believed, would be interested. Yet the response was so small that operation of the plan was impossible.

Q. What is the medical opinion of voluntary sickness insurance plans?

A. In general there is skepticism. However, the American Medical Association and its constituent state societies have recognized that economic problems relating to medical care do exist and have therefore approved experimentation with various types of prepayment plans. At the present time such plans in various stages of development are being sponsored by state medical societies. However, none has been in operation for a sufficient length of time to warrant conclusions. This applies also to medical care plans offered by other groups.

Experience in various parts of the world with voluntary sickness insurance plans leads many physicians to believe that they cannot succeed. Those who oppose these plans point out that most of them have failed. This, they say, is because a majority of wage-earners have had so little serious illness that they are not attracted to any plan in which they pay dues every month without receiving any tangible returns. Healthy people are inclined to feel that they may not be seriously ill for a long time to come and they are not interested in helping a lot of people they do not know pay their medical bills. Consequently, a sufficiently large group cannot be formed and held together.

From the viewpoint of the profession, it is claimed participation is usually unsatisfactory. Even if doctors themselves were to form groups, there would be so much competition and underbidding that those who survived would provide a very inferior grade of medical service.

Proponents of this method of distributing medical care are equally certain that if voluntary plans are properly organized and the wholehearted coöperation of civic groups is obtained, the result will be most satisfactory. They argue that if a proper educational program is carried on over a sufficient length of time, the public will respond. Those opposed, while not subscribing to these views, have been willing to go along and lend their support to experiments in voluntary insurance.

Q. What is the attitude toward compulsory sickness insurance?

A. The medical profession is unalterably opposed to compulsory sickness insurance because experience abroad has demonstrated that medical care under such a system deteriorates. One reason for this is that doctors have been subjected to political control. The profession has also been regimented, thereby destroying competition and incentive to self-improvement. The personal relationship between physician and patient, which the profession in this country considers so vital, no longer exists. In consequence, the physician's responsibility to his patients is on an entirely different and a much less satisfactory basis.

Q. What is the solution to the problem of distributing medical costs?

A. There is no one solution. Various experiments such as those which have been sponsored by the Medical Society of the District of Columbia will have to be tried. As indicated above, some of these have been successful, others have not. The public will fare a great deal better if changes in medical practice are evolutionary rather than revolutionary. Medical organizations are today more alert to economic and social problems than ever before and ways and means are being sought to supply medical care on a basis which will not jeopardize its quality and at the same time meet changing political conditions.

OUR RIGHTS

As might have been expected, the verdict in the trial of the American Medical Association, et al. has been received by physicians with mixed emotions. In some quarters there have been misgivings, and in others a feeling that the status of the medical organizations involved has not been materially affected. Regardless of their reactions, physicians should not be too hasty in coming to conclusions. As this is written, Justice Proctor must still hear arguments on three motions filed by defense counsel: (1) to set aside the jury's verdict as it relates to the corporate defendants, (2) for arrested judgment, and (3) to grant a new trial.

Whether or not there will be an appeal to the higher courts depends upon Justice Proctor's ruling. In the meantime, physicians would do well to read his charge to the jury, which was published in full in the April 12 issue of the *Journal of the American Medical Association.* It is an illuminating statement in which the rights of medical organizations under law are clearly set forth. Some of the more pertinent passages follow:

"The defendants had the lawful right to combine and form corporations and associations for the improvement of the practice of their profession and to advance their interests. They had the right to make reasonable rules and regulations respecting their profession and to ascertain the qualifications and character of their members. They had the right to discipline members who failed to abide by the regulations or rules adopted by the associations in the formation thereof and to suspend or expel from membership any member who failed to abide by the rules and regulations. The fact that the defendants adopted such rules and regulations and disciplined members does not of itself constitute an unlawful combination in violation of the statute. They must have combined together with the intent to injure, obstruct or restrain trade, or they must have intended to do acts the necessary effect of which would be to injure, obstruct or restrain trade.

"The individual defendants as physicians had a right to determine with what other physicians they would consult, and their refusal to consult with any particular physician is not of itself illegal.

"Physicians have the right to select the hospital in which they choose to treat and operate on their patients; and the refusal of a physician to do business with any hospital because of the composition of its courtesy staff is not of itself illegal.

"The defendant American Medical Association and

Medical Society of the District of Columbia have the right to adopt rules for just and fair dealing among their members and the right of enforcement of those rules and regulations by such reasonable penalties as they may provide for violation thereof.

"The defendants had the right to reach and attempt to reach their objective of advancing the interests of the medical profession by legitimate persuasion and reasoned argument, and to this end they had the right to tell their side of the story and to persuade others, including the Washington hospitals, other physicians, members of Group Health Association, Inc., and the public to utilize and use the defendants' method of practicing medicine, and to use peaceful persuasion, publicity, articles in the press, in publications of defendants, including the *Journal of the American Medical Association*, and all lawful propaganda to have their methods of practicing medicine prevail over those of Group Health Association.

"The defendants had the right to write letters or other statements among themselves or to other members of the profession or to the public generally, expressing disapproval of or opposition to Group Health Association and the form of medical service offered by it.

"The defendants were entitled, through legitimate persuasion and reasoned argument, to endeavor to support and advance the interests and extension of that type of medical practice believed by the defendants to be in the public interest, without regard to whether such acts hindered Group Health Association, its doctors, members or operations, or any other type or method of medical practice. If they did not go further to conspire to restrain Group Health Association there would be no offense.

"I charge you that the defendants have the lawful right, through action taken in their meetings and conferences, to formulate and adopt rules of medical ethics for the control and government of themselves and the members of their societies in the practice of their profession, and the support and maintenance of such principles of medical ethics by legitimate persuasion and reasoned argument or by enforcement of Society rules, laws and regulations, without more, would not constitute unreasonable restraints against Group Health Association, its doctors or members.

"Any doctor who voluntarily joined the defendant medical societies was required to comply with the constitution, rules and regulations thereof. No doctor would have the right, as against the wishes of the particular society, to retain membership therein regardless of how valuable or advantageous such membership might be to him, and at the same time wilfully violate any provision of its constitution, rules or regulations.

"If a doctor desires to retain membership he is bound to obey the constitution, rules and regulations, since membership therein is entirely voluntary; and if, as a result of his nonobservance, he suffers discipline and possible expulsion from the society, any injury, damage or restraint thus suffered by him or by any corporation by which he might have been employed would, without more, not constitute a violation of the statute."

Again it is suggested that only through reading the complete text of the charge can a proper perspective of the recent trial be gained.

PRESIDENT'S NIGHT

There have been few occasions in the history of the Medical Society of the District of Columbia which will linger longer in the memory of those who were present than President's Night, which was held on the evening of April 30. An overflow audience was on hand. Not only was every seat in the main auditorium and the balcony taken but a number were obliged to stand during the program. Those present were well rewarded for it proved to be a delightful evening.

The program opened with presentation ceremonies. Dr. F. X. McGovern, Chairman of the Executive Board, presented a certificate for meritorious service to the Medical Society to Dr. E. Y. Davidson. In presenting the award, Dr. McGovern said, "It is in recognition of his long and outstanding service to the Society, his indomitable spirit, and his ability that Dr. Davidson was chosen to receive this award which, as Chairman of the Executive Board, I am now conferring upon him." Dr. Davidson responded as follows: "I shall not speak to you of the triumph, the spiritual exaltation of achievement, but, rather, say in simple words that my emotions are profoundly stirred, and that I am overwhelmed by a sense of humility. I accept the award with a grateful heart, a heart that beats in unison with the hearts of my fellow members. As I now enter the road ahead, a road that connotes service, I dedicate my life anew to worthy service worthily done. Permit me, Mr. President, to say to you and the other members of the Medical Society that a little monitor within will ceaselessly strike the chord of memory as a reminder of your gracious friendship and of this high honor."

Dr. Daniel L. Borden, President of the Society, then conferred an Honorary Membership upon Mr. Charles S. Baker, the Society's legal counsel, with these words: "It is no secret that the medical and legal professions have been very closely associated for the past few months. It is not so well known that for a period of three years our attorney has worked faithfully and hard for the good of our cause. The Medical Society at this time wishes to acknowledge the effort that its counsel, with untiring interest, has given us. To Charles Silas Baker, affectionately known as 'Si,' we now express our appreciation." Mr. Baker accepted the honor in the unaffected manner which has endeared him to his friends.

Dr. Borden made as eloquent an address as has been heard by the Society in many years. Simply and directly he told of his association with many of the outstanding Washington physicians of the past. Particularly revealing were incidents which he told about Drs. Walter Reed, John Wesley Bovee, A. F. A. King, I. S. Stone, William A. White, Francis R. Hagner and Earl B. McKinley. The greatest compliment which could be paid Dr. Borden is that he made these physicians alive and interesting to listeners who had never known them. The wrapt attention given to his address and the enthusiasm at its conclusion were evidence that the audience was deeply impressed.

The surprise of the evening was the musical program under the able direction of Dr. Robert H. Harmon. A chorus of thirty-eight, made up of members of the Medical Society and the Woman's Auxiliary and daughters of members, presented a Song Review of American Music. Every number was enthusiastically applauded by a delighted audience. Dr. Harmon is deserving of the highest praise for the finished performance. Solos were rendered by Drs. William O. Bailey, Jeter C. Bradley, Michael Buckley, Preston Haynes, Randolph Hughes, Mrs. Herman Hertzberg and Miss Grace Lois Roberts, all of whom acquitted themselves with distinction. The Doctors' String Quartet performed like veterans. Members of the quartet were Drs. Isadore M. Alpher, Herbert H. Diamond, Wilbert Z. Gordon and Joseph Kepecs.

Credit for the splendid program is due Dr. John A. Reed, General Chairman, and his co-workers. Dr. Reed personally was tireless in his efforts to make the evening unforgettable. Members of the Committee on Arrangements were Drs. Reed, Herman S. Hoffman, Robert H. Harmon, I. M. Alpher; Mesdames Harold Downey, E. M. Pickford, John A. Reed, R. B. Castell and Joseph J. Greenlaw.

Several distinguished guests who were present were introduced by Dr. Borden to the audience. They included such well known personages as General James Carre Magee, Surgeon General of the Army; Admiral Ross T. McIntire, Surgeon General of the Navy; President Cloyd Heck Marvin of George Washington University; President Harry C. Byrd of the University of Maryland; Mrs. V. E. Holcombe, President of the National Woman's Auxiliary to the American Medical Association; Father David V. McCauley, S. J., Dean of the Georgetown University School of Medicine; Dr. Walter A. Bloedorn, Dean of the George Washington University School of Medicine; Miss Louise King, daughter of Dr. A. F. A. King; Misses Edna and Helen Stone, daughters of Dr. I. F. Stone; Mrs. Livingston Hartley, daughter of Dr. B. M. Randolph; Mrs. Samuel S. Adams, Mrs. William A. White, Mrs. Thomas A. Groover, Mrs. Francis R. Hagner and Dr. H. C. Corbett.

PERTINENT PARAGRAPHS

April Meetings

After the close of the trial, a number of committees resumed their meetings. A few who had, for one reason or another, been inactive during the year also got under way.

The following meetings were held in April:

April 1	Committee on Public Policy
April 2	Scientific Meeting of Society
April 3	Section on Neurology and Psychiatry
April 9	Scientific Meeting of Society
April 11	Subcommittee on Sanitation
	Subcommittee on Public Meeting, Annual Scientific Assembly
April 14	Committee on Public Health
April 15	Committee on Cancer Control
April 16	Committee on Medical Resources
	Scientific Meeting of Society
April 21	Postgraduate Course in Psychoneuroses in General Practice
	Obstetrical Board
April 22	Medical Bureau Committee
April 23	Scientific Meeting of Society
April 25	Subcommittee on Sanitation
April 28	Executive Board
	Subcommittee on Venereal Diseases
	Postgraduate Course in Psychoneuroses in General Practice
April 29	Board of Censors
April 30	President's Night

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Second Postgraduate Course

The Postgraduate Course in Psychoneuroses in General Practice, second in a series of two, was well received although the attendance fell short of expectations at the first lecture, which was presented on April 21. The lecturer, Dr. Walter C. Alvarez of the Mayo Clinic, spoke on "Differential Diagnosis of Psychoneuroses." Those on hand to hear Dr. Alvarez listened intently to his excellent dissertation and enthusiastically applauded him at its conclusion.

The small attendance was explained in part by the fact that examinations of draftees were being made on the same evening in local hospitals by some hundred and fifty physicians. Despite unusual demands now being made upon all Washington physicians, it is hoped that some way will be found to make it possible for them to devote more time to postgraduate education.

Dr. Leslie B. Hohman, the second lecturer, appeared on April 28. His subject was "General Management of Psychoneuroses."

Copies of lectures in both courses will be provided gratis to those who enrolled. The Committee on Postgraduate Education is indebted to the Abbott Laboratories of Chicago for the printing and mimeographing of the lectures.

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Davidson Lecture

The Subcommittee of the Executive Board, to whom must be submitted the essays by physicians and scientists in the District of Columbia who wish to compete for the privilege of being the Sixth Davidson Lecturer, has requested editors of the Medical Annals to call attention to the fact that essays must be in the hands of the Secretary of the Medical Society of the District of Columbia not later than July 1.

Essays submitted must bear no indication of the author's identity, being signed by a nom de plume. Identification of the author must be in a sealed envelope bearing on its surface the same nom de plume. No essay may be submitted that has been published.

In case no essay is found worthy of an award, the Subcommittee will declare no award; the lecturer then to be selected by the full Executive Board.

The Chairman of the Subcommittee of the Executive Board is Dr. Thomas E. Neill. Other members of the Subcommittee are Drs. Raymond T. Holden, Henry C. Macatee, William J. Mallory and Henry R. Schreiber.

Britain Appeals for Doctors

On April 21 the American Red Cross, the American Medical Association and the National Research Council issued an appeal for one thousand American doctors to serve with the British Red Cross. Although thousands of additional physicians will have to be supplied the United States Army and an undetermined number will be needed in defense work, the President of the United States, the Secretary of War and the Surgeon General of the Public Health Service strongly endorse the request, urging physicians in a position to do so, to volunteer.

Surgeon General Parran, who recently visited Great Britain, said:

"... With the whole civil population in the front lines of their gallant defense effort the assurance that medical aid is promptly available to all casualties is an important consideration in maintaining morale. Day and night, in every operating theatre, a surgical team stands by. A doctor is on call for every first aid post. Each night doctors visit all large shelters. A modern army requires many doctors. They are needed too in the large factories and to supply the needs of an expanded navy and air corps. Up to now, epidemics have been held in check. Air raid casualties have been fewer than anticipated, and have received prompt attention. To accomplish these results, however, the British doctors have been under a severe strain, and medical services for the general population have been diluted.

"Britain's appeal to the American Red Cross for 1,000 of our young doctors is a great opportunity for us to meet a real need. Aside from its humane aspects, American doctors, working side by side with British surgeons and physicians, will acquire valuable experience in the medical technics of modern warfare.

"Those who answer this Red Cross appeal will not only have rare professional opportunities but will also have the satisfaction of giving help where it is sorely needed. I feel certain America's doctors will answer this call. The needs are great, the rewards will be greater."

The following facts relating to service in Britain will be of interest to physicians:

"Applicants must be citizens of the United States, unmarried or without dependents, and not more than 40 years of age for service with the Royal Army Medical Corps, nor more than 45 years old for appointment to the Emergency Medical Service. Professional qualifications of all applicants will be reviewed by a subcommittee named by the Division of Medical Sciences of the National Research Council, working in collaboration with the American Medical Association.

"Applicants must be graduates of Class A medical schools in Canada or the United States and must have had at least one year of clinical hospital training in an institution approved by the American College of Surgeons. For the Emergency Medical Service candidates must have been in practice at least five years and not more than ten years. All applicants will be required to pass a stringent physical examination.

"Doctors accepted for service with the R.A.M.C. will be commissioned as lieutenants with remuneration at approximately $1,456.50 annually. At the end of 12 months of satisfactory service they will be promoted to the rank of captain with annual pay of approximately $1,800. At the end of each year of satisfactory service lieutenants will receive a bonus of £100, equivalent to approximately $402.50, and captains £150 or $603.75. Promotions beyond the rank of captain will be upon general merit.

"Accepted candidates will not lose their citizenship except in cases of dual nationality under which the individual might be classed as a British subject. Under the Geneva Convention, signed not only by the belligerents but by the United States as well, signatories have undertaken to respect and protect all medical personnel. This Convention states in part:

" 'Personnel charged exclusively with . . . the treatment of the wounded and sick . . . shall be respected and protected under all circumstances. If they fall into the hands of the enemy, they shall not be treated as prisoners of war.'

"The minimum tenure of service with the R.A.M.C. is one year, the contract to be renewable each successive year. Volunteers for the duration of the war also will be accepted. Free transportation will be provided from the home to point of duty and, upon termination of service, to a selected place of residence in the United States. American officers will be eligible for the same disability compensation as others in event of disability or death.

"Volunteers accepted by the R.A.M.C. are liable for service wherever British troops are located, mainly in Europe, Africa and Asia. Assignment to any particular place cannot be guaranteed, though wishes of applicants will be considered. They may be required to serve as medical officers in charge of native troops and, if serving in India, may be required to serve under Indian medical officers.

> "In addition to regimental medical units, assignments will be to field ambulance units, motor ambulance convoys, casualty clearing stations, ambulance trains, general hospitals, convalescent depots, hospital ships, and units serving with stationary troops, such as anti-aircraft formations and the like.
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> "Comparatively few of the volunteers will be assigned by the British Red Cross to the Emergency Medical Service. Those receiving such appointment must sign a contract for full-time employment for one year in the first instance at any hospital, public or private, the Ministry of Health may designate. Duties will include hospital treatment of Service and civilian air raid casualties, other Service casualties, and sick, and a number of special categories of civilian sick for the treatment of which the Government has undertaken financial responsibility for duration of the war. Rates of pay are the same as for British subjects, £550 a year, or approximately $2,213.75, with full board and lodging, or an allowance of £100 where board and lodging are not provided. In case of injury or death in the course of their employment or as a result of enemy action, compensation is the same as that provided for British subjects under the Personal Injuries Scheme for civilians."

Physicians desiring more complete information should communicate with the Red Cross National Headquarters, Washington.

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"Doctors in Politics"

In an article appearing in *Radiology* Mac F. Cahal, Executive Secretary of the Inter-Society Committee for Radiology, urges physicians to "exert a more effective influence on political affairs than they do today." Mr. Cahal says:

> "The word 'politics,' we insist, should be shorn of that malodorous connotation which has attached to it as a result of the dubious practices of some of the more notorious big-city machines. Politics, or political science, is concerned with the conscious definite purpose of society to establish authority and to determine its functions. By 'playing politics,' our illustrious forefathers conceived our form of government; they established its authority and determined its functions. The doctor, like every other good citizen, has inherited a responsibility to exercise the rights and privileges by which the individuals of the state control its public policy. His educational advantages increase his responsibility in this regard and render his neglect of duty more reprehensible than less fortunate followers in the civic community.
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> "It is in this enlightened meaning of the word that our political system is envied from abroad. It is this kind of responsible citizenship that prompted no less a cynic than G. B. Shaw to remark several years ago: 'You in America should trust to that volcanic political instinct which I have divined in you . . .'
>
> "To protect the public welfare against politics in health, and to guard the profession of medicine against influences bound to retard its progress, doctors must take a more active interest in politics. No group outside the medical profession is competent to guide the policies of the government in matters of health. It is the responsibility of the medical profession to provide this guidance. Under our system of government there is one way, and only one way, that such responsibility can be exercised—and that is through political effort."

There is food for serious thought in these observations. In our lifetime there has never been a period when it has been of greater importance that physicians fulfill their obligation as citizens.

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"Mozart and Pills . . ."

The Boston Doctors' Symphony Orchestra came in for some good-natured jibes in the press a few weeks ago. Frank Carey, a Boston newswriter, in an amusing description of physicians who take their art seriously, first takes his readers to a rehearsal.

> "Right in the middle of Beethoven's 'First Symphony,' the drummer walked out on the orchestra rehearsal—because he had to deliver a baby. A couple of second violinists and a French horn player sneaked in late, because they were 'busy in the office' with some folks who had the sniffles. And one of the mainstays in the first violin section didn't show up at all, because he was giving ether at a hospital. Such is life in the Boston Doctors' Symphony Orchestra."

He describes the orchestra in the following terms:

> "This is an organization of 75 general practitioners, surgeons, anesthetists, heart specialists, obstetricians and nerve specialists who, in effect, have tucked a musical instrument in the old medical bag so they can have a 'relaxing hobby' from professional life.

> "A few players of smaller instruments, such as trumpet, piccolo and flute, do carry their musical things in the medical kit so they can get in a few licks between office calls. . . .
>
> "Despite the obvious difficulties provided when the telephone calls some musical Dr. Kildare back to his rounds, the orchestra manages to rehearse nearly three hours every Thursday night—a night suggested by the doctors' wives 'because that's the maid's night out, and the women folk are home anyway to answer calls.'
>
> "They've been at it more than a year now, and they're preparing for their second formal concert, to be given at Boston's Jordan Hall, May 11. They're really going to do it up brown, too, presenting their first 'guest soloist' in the person of Dr. Werner Mueller of the Harvard Medical School."

Of course, things do not always go well with the orchestra:

> "The kettle drums player is the only one who can knock off to answer a telephone call without missing a beat. When a call comes that isn't urgent, he waits until his musical score shows he has about 54 measures of 'rest' coming up—then he hustles to the phone.
>
> "The doctors say they're getting so now that the interruptions don't bother them a bit. They were really put out, though, last year when a violin-playing obstetrician had to quit for good 'because it semed he was called to deliver a baby—sometimes twins—every Thursday night.' "

Conductor Alexander Thiede, the only non-medical man in the orchestra, has his troubles too:

> "Once, when Thiede winced at a blue note that hit him from the violin section, the guilty player grinned and said, 'Let's operate again, Aleck! Gangrene's set in . . .' "

From all reports, Boston doctors are a tenacious lot, and despite all obstacles their orchestra does a first-rate job of playing "heavy" music.

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Bureau Membership Increases

There has been a gratifying increase in Medical Bureau membership since its inauguration. On April 23, when the June telephone directory went to press, 29 new subscribers to the Alternate Listing Service and 14 to the Secretarial Service had been obtained. Medical Bureau now has a total membership of 152, 122 subscribing to the Alternate Listing Service and 30 to the Secretarial Service. Doctors, Garfield, Providence and Sibley Hospitals and the Health Security Administration are among the subscribers to the Secretarial Service.

The Bureau handled the largest number of calls since its establishment during April. Two government departments are now using it as a source of information about physicians. Names of practitioners on the Society's classified list are provided these departments upon request.

Naturally, the Medical Bureau Committee is pleased with the progress which has been made. Their objective now is a membership of at least 200 before the fall directory.

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Reduction in Meetings Favored

Although the Executive Board had no recommendations before it, a progress report which had been submitted to it by the Special Committee on Medical Meetings, was presented at the Annual Business Meeting of the Society on May 7.

Several weeks ago, the Committee mailed to the Society membership a questionnaire relating to medical meetings. On April 28, 328, or 30.7 per cent of the membership had returned the questionnaires. Of this number, 272 or 84.2 per cent, were in favor of reducing the number of Society meetings. Fifty-one, or 15.8 per cent, stated that they were opposed to any reduction. In regard to the number of meetings which should be held, 268 or 84.3 per cent, favored bi-weekly meetings; 50, or 15.7 per cent, favored weekly meetings. Two hundred and eighty-five, or 84.2 per cent, stated they favored a bi-weekly schedule for a trial period of one year; 34, or 7 per cent, were opposed. In reply to the question relating to meetings of limited membership societies, 65.5 per cent wished to have them reduced, and 34.5 per cent desired no change.

PRESIDENT'S
PAGE

WHAT THE RECORD SHOWS

As the Medical Society's technical representative, I sat in court at every session of the two-month trial of the American Medical Association, et al. The outcome of the case is now history, although its final disposition rests with the courts.

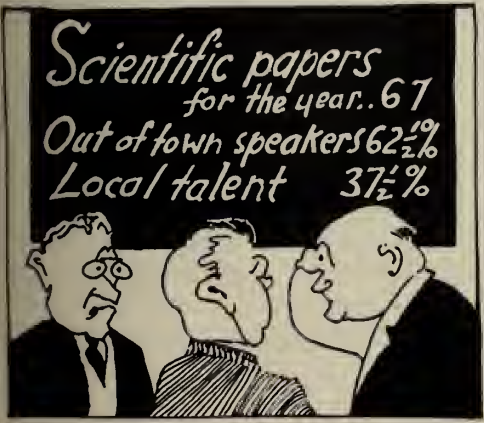
It is a relief to turn to the problems of our Society that we can solve ourselves without legal entanglements. As I circulate around I have tried to get at some of the reasons why the attendance at our regular Society meetings has not been up to the standard warranted by the programs presented. So that our members may know exactly what the Society has offered this past year, I submit for their consideration the following analysis of the scientific programs.

During this administration, there have been read at our regular meetings 35 scientific papers, 18 of which were presented by out-of-town physicians and 17 by Society members. There were 32 papers presented in connection with the 1940 Annual Scientific Assembly and postgraduate courses, 24 of which were given by men away from Washington and 8 by local physicians. This is a grand total of 67 scientific papers offered under the auspices of our Society, 42 (62½ per cent) by outside men and 25 (37½ per cent) by local talent.

Representatives from the following universities and hospitals have appeared before the Society: Yale, Harvard (3), Johns Hopkins (4), Maryland (5), Temple (2), Virginia, Cornell (2), Richmond, Columbia (2), New York Post Graduate, Pennsylvania (2), George Washington (10), Georgetown (7), and Mt. Sinai Hospital.

I have heard practically all of the papers presented this year. They have touched upon every phase of medicine. I can say without reservation, they have been worthy of the Society's attention. Certainly those responsible for the scientific programs have not lost sight of the provision in the Constitution that "The object of this Society shall be the promotion of the science and art of medicine."

I wish to express the appreciation of the Society to the Committees on Program and Postgraduate Education for their splendid work.



Daniel Le Ray Borden

MEDICAL PREPAREDNESS NEWS

At a meeting of the Committee on Medical Resources on March 25, Drs. Worth B. Daniels, Linn F. Cooper, and Lewis C. Ecker presented a petition signed by 57 examining physicians requesting that the Committee "formulate some plan whereby the work involved in the defense program will be more generally shared by members of the Society." The burden of examination of draftees, they stated, was falling very heavily upon the 139 physicians and 12 dentists who were serving in the six hospitals, approximately 100 selectees being examined at each station two nights a week. It was suggested that the Committee designate additional physicians "to serve in various capacities for specified periods, probably for two or three months each year, much as is now done in hospitals." Further details were submitted as to how the work might be spread and the examinations more efficiently conducted.

The Committee agreed in principle with the views expressed and voted to appoint additional physicians to the various Selective Service Boards. Definite arrangements regarding the period during which each physician will serve remain to be worked out. However, the Committee expects to announce its plans within the next few weeks. It took the first step when it decided not to call for volunteers but to appoint those whom it believed to be available.

The following additional appointments, it believes, are sufficient to permit division of the work so that too much time will not be required of any practitioner:

District No. 1	R. Massie Page Henry B. Gwynn
District No. 2	John W. Warner E. Osmun Barr
District No. 3	Francis T. Sharpe Karl Dortzbach
District No. 4	Francis D. Threadgill James J. Whisman
District No. 5	Garnet W. Ault Harvey F. Kreuzburg
District No. 6	Raymond T. Holden Charles A. Lally
District No. 7	Perry W. Gard Henry A. Hornthal
District No. 8	Arch L. Riddick John C. Reisinger
District No. 9	Howard L. Smith John Minor
District No. 10	Thomas F. Keliher Henry A. Grennan
District No. 11	George K. Nutting William F. Nelson* Joseph N. Dodson*
District No. 12	Claude P. Carmichael* H. L. Ashley*
District No. 13	Maurice Protas Fred Y. Williamson
District No. 14	Harry Hurtt Ignatius Rutkoski
District No. 15	Harry H. Pelham* J. O. Miles*
District No. 16	Alan F. Kreglow W. Ross Morris
District No. 17	Robert B. Havell Cyrus R. Creveling
District No. 18	John H. Hazard I. Philips Frohman
District No. 19	Ralph J. Haws O. N. Simmons* L. R. Berry*
District No. 20	Milton C. Cobey Alexander C. Leonardo
District No. 21	Leo B. Gaffney John A. Simpson
District No. 22	George J. Ellis William J. P. Howard
District No. 23	Stephen A. McCarthy Herman Eisenberg
District No. 24	Raymond C. Kirchner William F. O'Donnell
District No. 25	M. Grant Lucas* William E. Lewis*

The following substitutions were recommended:

District No. 3	Fred A. J. Geier for Harry M. Fletcher
District No. 5	James Hawfield for John C. Reisinger
District No. 6	Stephen F. Verges for John L. DeMayo
District No. 12	H. Eugene Cole for Paul R. Wilner
District No. 18	R. J. Bosworth for Philip A. Degnan
District No. 24	Wilbur W. Martin for R. K. Hollingsworth
District No. 23	William H. Clements for Edward A. Kelly

The following nominations for additional appointments to Medical Advisory Boards were submitted:

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* Recommended by the Medico-Chirurgical Society, Inc. of Washington.

Medical Advisory Board (A):	
Internist	Alva D. Daughton Louis G. Weller, Jr.
Ophthalmologist	Thomas A. Egan
Otolaryngologist	Eugene A. Taylor Henry T. Kulesher T. Fraser Williams
Urologist	G. Roland Gable
Medical Advisory Board (B):	
Internist	John A. Reed Irving Brotman
Otolaryngologist	Homer King Vann
Medical Advisory Board (C):	
Internist	Leslie H. French John A. Reisinger
Otolaryngologist	Richard L. DeSaussure Henry T. Miller Charles W. Tegge Frederic A. Moretti

The names of the following dentists have been recommended by the District of Columbia Dental Society for appointment to hospitals where examinations of registrants are being made:

- Georgetown Hospital:
  - M. E. Brushart
  - J. R. Hogan
  - R. J. Eamich
  - F. B. Netherland
- Emergency Hospital:
  - Dudley T. King
  - William Brooks
  - Joseph Manley
  - Charles E. Coulon
- Providence Hospital:
  - E. T. Lane
  - Samuel Feldman
  - Alexander Rosenblum
  - Karl H. Wood
- Sibley Hospital:
  - C. C. Gallaway
  - Harry Smith
  - Frederick Hess
  - Joseph Goldstein
- Garfield Hospital:
  - O. H. Wendt
  - Louis M. Cuvillier
  - E. E. Merriman
  - Irving Eisner
- Freedmen's Hospital:
  - Norris H. Atkins
  - William T. Randall
  - Fletcher Barber
  - Otis J. Williams

WOMAN'S AUXILIARY NOTES

Only a few more weeks and the members of the Women's Auxiliary to the American Medical Association will be arriving in Cleveland, Ohio, for their Annual Convention, June 2–6, held in connection with the meeting of the doctors in that city. The Auxiliary of the Medical Society of the District of Columbia hopes to be represented by at least one official delegate, and possibly two, at the meetings there, who will read the annual report of the Auxiliary and otherwise constitute the voice of the Washington Auxiliary. These delegates in turn will bring back a report of the happenings in the National Auxiliary and in this way help to establish a closer link with this ever growing body of doctors' wives from all over the United States.

Of particular interest was the activity of the committee from the Auxiliary, headed by Mrs. Harold Downey, which coöperated with the men's committee to help make up the program for the President's Night of the Medical Society. This was the first time the Woman's Auxiliary participated on such a program, and an interesting evening was enjoyed by those who attended.

At the meeting of the Auxiliary held on April 9, a substantial donation was voted to be made to the doctor and his family whose situation through the illness and enforced idleness of the doctor has solicited the interest of the Auxiliary. This will be the second occasion during the winter when financial assistance has been given this unfortunate family.

At the April meeting, a most interesting talk was given by Mrs. Anne Tillery Renshaw on "The Art of Public Speaking." Mrs. Renshaw is the head of the Renshaw School of Speech and speaks with authority on this subject, which is engaging the attention of so many women at this time when the need for greater ability in speaking in public is felt by all progressive-minded women.

It is with great regret that the Auxiliary announces the death of Mrs. Daniel Moffett and its members wish to express their deep sympathy to her family.

PAN AMERICAN MEDICAL ASSOCIATION

James Alexander Lyon, M.D., F.A.C.P.

President, Washington Chapter, Pan American Medical Association

Fifteen years ago a small group of eminent physicians, practicing in New York City, recognized the need of an agency through which the medical profession in the United States could extend courtesies and a welcoming hospitality to visiting physicians from the other republics of the Americas. This group of men conceived of an agency which would foster understanding and good fellowship among representative medical men of the Western Hemisphere; and further, an agency which would develop, disseminate and conserve medical knowledge by means of Inter-American Congresses, an interchange of doctors, and the establishment of an official medical journal.

In December, 1925 the dream took concrete shape, when the charter of the Pan American Medical Association was incorporated under the laws of the State of New York, with the executive office established in the Borough of Manhattan, City, County and State of New York. Local chapters were later organized in the chief medical centers throughout South and North America.

The primary objectives of the Association were embodied in the articles of incorporation, essentially as I have reviewed them. During the ensuing years these objectives have been expanded and more concretely defined, but they have not changed.

Certain of our aspirations have been realized. The Association has held seven Inter-American Congresses. The eighth Congress was scheduled to meet in Buenos Aires during August, 1941. The plans for the 1941 Congress included trips in Brazil and Uruguay, as well as in Argentina, to the end that we might increase our knowledge and appreciation of the resources, opportunities and needs of the various Republics.

The Association has been successful in securing scholarships for postgraduate medical study. At the Seventh Congress, which met in Havana in 1938, two Cuban physicians, chosen by the faculty of the University of Havana, were awarded scholarships for postgraduate study in the hospitals of the United States. The grant in each case paid the student's transportation and provided him with $50 a month for 18 months. One grant was the gift of Mrs. Paul Moore of Morristown, New Jersey; the other of Dr. William Sharpe of New York City, one of the founders and a member of the New York Chapter of the Pan American Medical Association.

An attempt has been made to establish a clinic in New York City where visiting and resident physicians from the republics of America can work in association with the local members of our organization.

Two of our cherished aspirations are far from being realized. Our unfulfilled hope that some day the Pan American Medical Association may be able to publish an inter-American medical journal and to finance a well organized hospital for the purpose of supplying postgraduate work for physicians from South America, provides us with stimulating incentives.

One of the most noteworthy aspects of the founding and development of the Pan American Medical Association is its significance as a forerunner, and now as a small part, of a far-flung and intensive movement to recognize and strengthen the cultural relations among the peoples of the American continents. There is today an active recognition of the basic cultural interdependence among the nations of the Western Hemisphere and a will to strengthen those cultural bases of unity among nations.

Two projects which have been initiated under this general movement are of special interest to us. An inter-American pact, known as the Convention for the Promotion of Inter-American Cultural Relations, has been ratified by fourteen of the twenty-one American republics. It sets up a system through which the governments which are parties to the Convention annually exchange professors and graduate students in various fields of education and research. The travelling and maintenance expenses of the professors and students are shared by the receiving and sending governments. An act of the Congress of the United States has made $75,000 available to the State Department to defray our government's share of the expense. The exchange program under the pact offers a broad avenue for the inter-communication of medical knowledge.

Approximately six hundred educators from all sections of the United States met in Washington during November, 1939 under the auspices of the Division of Cultural Relations of the Department of State to consider ways of facilitating and increasing the interchange of educational interests among the people of the American republics. As one of the results of this conference, a Continuation Committee in Medicine and Allied Fields was created. Under the chairmanship of Dr. William D. Cutter the Committee has been working towards the establishment of travel and subsistence fellowships; it has undertaken a survey of the internships in the hospitals of the United States which are available to graduates of the South American medical schools, and it has sought additional means of disseminating scientific information in medicine and allied fields by encouraging an expansion of the *Pan American Sanitary Bureau Bulletin* to include articles of more general interest as well as lists of books of particular interest to South Americans. Thus the *Bulletin* of the Pan American Sanitary Bureau may develop into the Inter-American medical journal which our association has dreamed of establishing.

A problem which demands immediate attention is the formulation of standards by which a student's professional ability and his basic background may be measured. Graduate students of maturity are desired for scholarships and exchanges. Only a mature student can appreciate the life of a foreign people, evaluate it, and interpret it to his own people. The younger undergraduate student is too often absorbed into the life of the people with whom he is studying; he marries and does not return to his native land.

The State Department has received a number of requests from students of South America who wish to pursue further study in the United States. A large percentage of these students are in medicine. Dr. Cutter reports that there are several hundred more internships in the hospitals of the United States than there are graduates to fill them. This year many students from the Latin-American countries have been able to continue their advanced study and training in medicine and allied fields because numerous agencies are now working earnestly in behalf of Pan Americanism.

CLIPPING SERVICE FOR SPEAKERS

The Bureau of Health Education of the American Medical Association offers to local physicians the loan of prepared material for speakers addressing lay audiences. Even though a physician may be an able speaker, he frequently hesitates to accept invitations to speak before lay audiences because time is required to prepare material in suitable language for such audiences.

It is here that the *Hygeia* Clipping Collection loan service is of value. These collections consist of *Hygeia* material. They are patterned after the American Medical Association's Package Library. The advantage of this material is that it is written in non-technical language that the layman can understand. Thus, the physician is saved the effort of translating technical material into language easily understood by non-medical groups.

There are collections available on 82 topics; accompanying most collections is a speaker's outline. This outline is not intended as a fixed pattern which the speaker must follow but is merely offered as one way in which the material may be presented. As the physician reads the clippings, he may make his own notes on the outline and use only that portion of the material appropriate to his community.

The collections may be borrowed for a 10-day period and the only charge to the physician is the return postage for the bound material. Collections should be ordered at least two weeks in advance, and first, second and third choice should be indicated since collections are not always available.

The demand for this material has grown tremendously the past several years. Several state medical societies, as well as a few county medical societies, have found it to their advantage to develop speakers' bureau library services of their own. In spite of the great demand for this material and the amount of publicity it has received, there are still a number of physicians who are not acquainted with the material offered by the Bureau. The practicing physician is not always a polished platform orator and welcomes aid of this type.

The following are the loan collections of *Hygeia* material:

Title	*Order No.*
Anesthesia	330.1
Anemia	92.1
Appendicitis and Laxatives	177.0
Athletics and Exercise	318.1
Blood Transfusions	131.0
Cancer	61.0
Child, Health of the Preschool	401.2
Child, Health of the School	401.1
Child's Health and His Future Career, The	291.0
Colds	151.4
Constipation and Cathartics	184.1
Communicable Diseases	47.1
Crippled Children	225.0
Deafness	121.1
Diabetes	74.1
Diet, Watch Your	302.4
Diseases, Nine Most Deadly	292.0
Doctors—City and Country	322.1
Eyes, Adult's	120.1
Eyes, Children's	120.2
Family Medicine Chest, The	327.1
Feeding of Children	302.6
First Aid	349.0
Food, Drug and Cosmetic Racketeers	328.0
Food, Protection of	302.7
Gallbladder	180.1
Goiter and Other Glands	81.1
Growing Old Gracefully	261.1
Hair and Nails	236.0
Hay Fever—Allergy—Idiosyncrasy	305.1
Health Examinations	319.1
Health Examinations of Children	319.2
Healthy Living, Ten Points in	402.0
Heart Disease	150.1
Heredity and Eugenics	312.0
Hospitals	342.0
Industrial Health	348.1
Infant Hygiene	251.0
Infantile Paralysis	16.0
Kidneys	194.1
Leprosy	33.1
Maternal Hygiene	211.0
Mates or Mismates (Marriage)	426.0
Medical Advances, Outstanding	338.1
Medical Preparedness	347.0
Menstruation and the Menopause	208.0
Mental Hygiene—Adult	122.1
Mental Hygiene—Child	124.2
Milk	337.1
Narcotics	105.0
Nursing	343.0
Obesity	73.1
Physical Education	318.3
Physical Therapy, X-Ray, Radium	335.0
Pioneers of Medicine	338.2
Play, Leisure and Recreation	320.1
Pneumonia	154.1
Posture	228.1
Progress in Preventive Medicine	338.0
Public Health	332.0
Ringworm	233.1
Rheumatism	72.1
Safety	288.0
Sex Education	422.0
Skin	238.0
Superstitions	333.1
Surgery	310.0
Syphilis and Gonorrhea	34.1
Training for Athletics and Health	318.2
Teeth	172.2
Teeth, Children's	172.3
Tobacco and Alcohol	101.4
Tonsils and Adenoids	171.0
Tuberculosis	23.1
Tuberculosis in Childhood	23.2
Vacations	320.2
Ventilation	316.1
Youth	124.3

MEMBERSHIP

The following applicants were duly elected to membership at the business meeting, May 7, 1941:

Active Members

Camp Stanley Huntington, 900—17th Street, N. W.

Associate Members

Thelma Brumfield Dunn, 2818 North 24th Street, Arlington, Virginia
Pearl B. Holly, 3925 Davis Place, N. W.
Frederick Dodge Mott, 5506 Wriley Road
William Bell Wardrop, 951 Bonifant Street, Silver Spring, Maryland

The following applicants for membership will be voted on at the business session, October 8, 1941:

For Active Membership

Joseph Maurice Becker, Georgetown University—1934
Richmond C. A. Brooks, Georgetown University—1922
Jacob Ceppos, George Washington University—1936
Jerome Blaine Harrell, George Washington University—1936
Charles Randolph Hughes, George Washington University—1939
William Harper Spicer, College of Medical Evangelists—1932
Alfred J. Steinberg, Harvard Medical School—1919

Recent changes in membership status:

Active to Associate

Walter Atkinson
John F. Dominick
Irvin Feldman

Resigned:
Active Member

Weldon A. Price

Associate Member

F. Bernard Schultz

NEWS AND PERSONALS

The Ninety-second Annual Session of the American Medical Association will be held in Cleveland, Ohio, June 2–6, 1941. The House of Delegates will convene in the Euclid Ball Room, Hotel Statler, at 10:00 a.m., Monday, June 2. Dr. Henry C. Macatee will be present to represent the Medical Society of the District of Columbia. The Cleveland Public Auditorium will be used for the general scientific meetings and exhibits. A great number of Washington physicians are planning to attend the meetings and many will participate in the program.

The Annual Meeting of the American College of Radiology will be held in Cleveland at the Statler Hotel, June 4, 1941.

The Twenty-fifth Annual Session of the American College of Physicians was held in Boston, April 21–25. Meetings were well attended and the program was excellent.

The following members of the Society were elected Fellows: **Drs. Alva D. Daughton, Hugh H. Hussey** and **Stephen W. Nealon, Jr. Dr. James E. Nolan** was elected Associate in the College. **Dr. Wallace M. Yater** was reëlected Governor of the American College of Physicians for the District of Columbia.

A number of physicians from Washington participated in the meetings. Surgeon General James C. Magee presented a paper on the "United States Army"; Dr. Thomas Parran gave an address on the "United States Public Health Service," which related particularly to the Defense Program; Dr. Yater participated in a Clinical-Pathologic Conference at Harvard Medical School and also led a panel discussion on "Peripheral Vascular Diseases." Dr. Theodore G. Klumpp took part in a panel discussion on "Dosages and Toxic Reactions of Drugs."

The following members of the Society attended the meetings:

Drs. Theodore J. Abernethy, Wyrth P. Baker, Darrell C. Crain, Jr., Worth B. Daniels, Samuel Dessoff, Harry F. Dowling, Lewis C. Ecker, Clayton B. Ethridge, Leon S. Gordon, Oscar B. Hunter, Hugh H. Hussey, Jr., Thomas F. Keliher, Clapham P. King, Benjamin Manchester, Michael J. McInerney, John Minor, Stephen W. Nealon, Jr., and Wallace M. Yater.

May First, proclaimed National Child Health Day by President Roosevelt, was celebrated at a dinner at the Mayflower Hotel, attended by more than 500 national leaders and community workers. The dinner was arranged by a committee headed by Dr. George C. Ruhland, District Health Officer. Speakers were the Honorable Paul V. McNutt, Federal Security Administrator; Miss Katharine Lenroot, Chief of the Children's Bureau; Dr. Ella Oppenheimer, Director of the Bureau of Maternal Child Welfare, District Health Department, and Dr. Martha M. Eliot, Assistant Chief, Children's Bureau, and Dr. Ruhland. Among the local organizations participating in the event were the Social Hygiene Society, Washington Council of Social Agencies, Medical Society of the District of Columbia, District of Columbia Dental Society, Children's Hospital, League of Women Voters, American Legion, Rotary and Kiwanis Clubs, the Crippled Children's Society, the Instructive Visiting Nurse Society, public schools and settlement houses.

The Section on Pediatrics will meet with the Washington Gynecological Society on May 15 in the auditorium of the Medical Society Building. The program will consist of a panel discussion on "Problems of the Newborn."

The Section on Neurology and Psychiatry met in the Society's Building on May 1. Dr. Paul Ewerhardt gave the Chairman's address on "Mental Hygiene and Psychiatry." Officers elected for 1941–42 were as follows:

Dr. James Gilbert, *Chairman;* Dr. Zigmond Lebensohn, *Vice Chairman;* Dr. Philip Litvin, *Secretary-Treasurer;* Drs. Paul Ewerhardt, James Lewald and Roger Cohen, *Executive Committee.*

Plans are going forward for the **Francis R. Hagner Library** at Garfield Memorial Hospital. The library is intended for the use of interns and young physicians engaged in postgraduate study at the hospital. Members of the sponsoring committee are: Commissioner Melvin C. Hazen, *Honorary Chairman;* Dr. Harry H. Kerr, *Chairman;* Miss Margery L. Powderly, *Secretary-Treasurer;* Corcoran Thom, Robert L. Lewis, Col. John C. O'Laughlin, Drs. Luther H. Reichelderfer, Edward Y. Davidson, Charles P. Howze, John A. Talbot and John D. Thomas. Former students and patients of Dr. Hagner throughout the United States are contributing to the library.

The Washington Gynecological Society will hold a joint meeting with the Baltimore Obstetrical and Gynecological Society on May 21 at Gibson Island. Dr. Norman F. Miller of Ann Arbor, Michigan, will be the guest speaker.

The Syphilis Journal Club will hold its final meeting of the year on May 29 at the home of Dr. Daniel L. Seckinger. Members of the syphilology staff of the United States Naval Hospital will present the program under the direction of Captain R. P. Parsons. Election of officers will be held.

The Pan American Medical Association held its last meeting of the season on Sunday, May 11, at the Army and Navy Club. Dr. Harry Bernard Wright of Philadelphia entertained with moving pictures of Ecuador and British Honduras. Preceding the meeting, the President, Dr. James Alexander Lyon, gave a dinner in honor of the guest speaker.

The Hippocrates-Galen Society held its annual field day and banquet at the Columbia Golf and Country Club on May 8. Officers elected for 1941–42 were as follows:

Dr. George Huffman, *President;* Dr. Walter K. Myers, *Secretary-Treasurer.*

The Washington-Baltimore Psychoanalytic Society held its last meeting of the year in Baltimore, April 19. New officers elected were as follows:

Dr. Ernest E. Hadley, *President;* Dr. Edith Weigert, *Vice President;* Dr. Ralph Crowley, *Secretary-Treasurer.*

The Jacobi Society of Washington held its annual banquet at the Mayflower Hotel on April 26. Professor Elmer Louis Kayser of George Washington University was the guest speaker.

At the March 17 meeting of the Society, Dr. Naomi Kanof presented a paper entitled "Allergy and Dermatology."

The Clinico-Pathological Society held a dinner meeting May 6 at the Chevy Chase Club. Dr. Daniel B. Moffett was host. Case reports were presented by Drs. Louis S. Greene, Charles P. Howze and John H. Lyons.

Several local medical societies are closing their season with annual banquets. **The Louis Mackall Medical Society** held a dinner meeting, April 17, at the Columbia Country Club; the **Aesculapian Society,** a dinner at the Kenwood Country Club on May 6; the **Georgetown Clinical Society** will hold its annual banquet on May 20 at the Washington Golf and Country Club.

Winners in the **Inter-Chamber City Health Conservation Contest,** sponsored by the United States Chamber of Commerce in coöperation with the American Public Health Association, have just been announced. The following cities have been placed on the National Health Honor Roll:

Baltimore, Md.; Evanston, Ill.; Greenwich, Conn.; Hackensack, N. J.; Hartford, Conn.; Honolulu, Hawaii; Madison, Wis.; Memphis, Tenn.; Newton, Mass., and Pasadena, Calif.

Each one of these cities, judged by a group of nationally known health experts, has organized on a community-wide basis to solve most effectively their own public health problems, such as water supply, sewage disposal, tuberculosis, syphilis, industrial hazards, maternal and child health problems, adequate safe milk supply and many other public health essentials.

Awards have also been made for cities demonstrating the most noteworthy achievements in tuberculosis control and the most effective syphilis control programs, in view of the importance of these diseases in relation to National Defense. The 1940 winners for the former were Hartford, Conn., and Newton, Mass.; for the latter, Chicago, Ill., Louisville, Ky., Memphis, Tenn., and Pasadena, Calif.

Arlington County, Virginia was among the counties placed on the National Health Honor Roll in the 1940 Rural Health Conservation Contest.

A new monthly bulletin, **"Capital Health,"** made its first appearance on May 1, 1941 in observance of Child Health Day. The bulletin is issued by the District Health Department and replaces the former weekly publication, *Health in the Capital City*.

Dr. Isadore Rodis has been appointed Associate Professor of Psychiatry and Acting Director of the Department of Psychiatry, Georgetown University School of Medicine, according to an announcement made April 12 by the Very Reverend Arthur A. O'Leary, S.J., President of the University.

Dr. Eugene de Savitsch, chairman of the Medical and Surgical Committee of the local branch of Bundles for Britain, Inc., is making an appeal for funds for the aid of London volunteer hospitals. May 6 marked the beginning of a nation-wide drive for funds through more than 900 branches. A campaign in London for the same purpose culminated on May 6, which is traditionally "Hospitals' Day" in England.

Dr. J. Winthrop Peabody was reëlected President of the District Tuberculosis Association on March 31. Dr. H. J. Crosson was elected Vice President and Dr. Edgar W. Davis, a member of the Board of Directors.

Dr. Oscar Wilkinson read a paper entitled, "The Diagnostic Requirements and Early Operative Treatment of Squint with Case Reports" at the 74th Annual Session of the Mississippi State Medical Association, which was held in Biloxi, Miss., May 13-15.

Drs. Melvin P. Isaminger and W. Ross Morris acted as judges of local contestants in the National Tuberculosis Essay Contest. The contest was open to colored students in universities and high schools.

Theodore Wiprud, Secretary of the Medical Society, addressed resident physicians at Children's Hospital on April 7. "Physicians' Records" was the subject of his talk.

Dr. J. Rozier Biggs was elected president of the Middle Atlantic Medical Directors Club at a banquet at the Dodge Hotel, April 4. Dr. Biggs is vice president and medical director of the American Standard Life Insurance Company and the Electrical Workers' Benefit Association.

Dr. W. Ross Morris, Chairman of the Society's Subcommittee on Tuberculosis, gave a radio talk over WOL on May 2 in connection with the Early Diagnosis campaign sponsored by the District Tuberculosis Association.

Stanley D. Willis was elected president of **Emergency Hospital,** April 25, having served as hospital treasurer for the past two years. **Dr. A. B. Moore** was reëlected secretary.

Dr. John W. Lawlah, a graduate of the University of Chicago, was appointed Dean of the Howard University School of Medicine on April 8. Dr. Lawlah succeeds the late Dr. Numa P. G. Adams.

BOOKS RECEIVED FOR REVIEW

Acknowledgment is made of the following books which have recently been received for review:

First Aid in Emergencies, 10th ed. Eldridge Eliason, M.D., F.A.C.S., Professor of Surgery, University of Pennsylvania School of Medicine and Graduate School; Surgeon, University of Pennsylvania, Presbyterian and Philadelphia General Hospitals. Pp. 260, with 126 illustrations. Price, cloth, $1.75. Philadelphia: Lippincott, 1941.

The Essentials of Applied Medical Laboratory Technic. J. M. Feder, M.D., Director of Laboratories and Allergic Service, Anderson County Hospital, Anderson, S. C. Pp. 241, with illustrations. Charlotte, N. C.: Charlotte Medical Press, 1940.

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EUGENE THEODORE STEPHENSON, M.D.

(1872–1941)

Dr. Eugene Theodore Stephenson, an Active Member of the Medical Society of the District of Columbia, died April 12, 1941, at his home, 208 Maryland Avenue, N. E., following a prolonged illness.

Dr. Stephenson was born in Aberdeen, Miss., August 7, 1872. He received his degree in medicine from George Washington University and began practice in the District of Columbia in the same year.

He became a member of the Medical Society in 1912. At the time of his death, he held membership in the Ninth Street Christian Church, the Joseph H. Milans Lodge, F.A.A.M., and the Bethlehem Chapter, O.E.S. For 51 years he had maintained his membership in the Typographical Union.

Mrs. Lena Stephenson, his wife, and Mrs. Eugenia S. Corning, a daughter, are the immediate survivors.

JAMES FRANKLIN HILTON, M.D.

(1879–1941)

Dr. James Franklin Hilton, obstetrician, an Active Member of the Medical Society of the District of Columbia, died April 18, 1941, at Georgetown University Hospital, following a brief illness.

Dr. Hilton was born in Washington, D. C., on April 12, 1879. He graduated from Georgetown University in 1904 and began practice in the District in the same year. For two years he was resident physician at Providence Hospital. At the time of his death, he was a staff physician at Georgetown University Hospital.

He was elected to the Medical Association of the District of Columbia in 1907 and became an Active Member of the Medical Society in 1923. He was also a Fellow of the American Medical Association and was active on committees of the Washington Board of Trade.

Surviving are his wife, Mrs. Lucille Haley Hilton, a brother, Dr. Samuel L. Hilton of Washington, and a sister, Mrs. Catherine S. Campbell of Los Angeles, California.

DANIEL DAVIS, M.D.

(1886–1941)

Dr. Daniel Davis, Professor of Clinical Obstetrics at Georgetown University School of Medicine and an Active Member of the Medical Society of the District of Columbia, died April 17 at Georgetown University Hospital. He resided at 1901 Wyoming Avenue, N. W.

Dr. Davis was born in Washington, D. C., November 21, 1886, the son of the late Admiral C. H. Davis, U.S.N., and a nephew of the late Senator Henry Cabot Lodge. He graduated from Harvard University in 1909 and received his degree in medicine from Johns Hopkins University in 1913. Following his internship at Ancon Hospital in Panama, he became assistant resident in obstetrics at Johns Hopkins Hospital and later resident obstetrician and instructor in obstetrics. During the World War, he served as First Lieutenant and Captain in the Medical Corps of the United States Army, A.E.F. Returning to the United States in 1920, Dr. Davis began the practice of medicine in Washington.

Dr. Davis was elected to the Medical Society in 1920. He was also a Fellow of the American Medical Association.

Surviving are his wife, Mrs. Willa Davis, a son, John Davis, and a sister, Miss Elizabeth Davis, all of Washington, and a brother, Commander C. H. Davis, U.S.N., of Boston.

ALICE WINANS DOWNEY, M.D.

(1863–1941)

Dr. Alice Winans Downey, an Associate Member of the Medical Society, died March 9, 1941.

Dr. Downey was born in Bellaire, Ohio, July 27, 1863. She received the degree of doctor of pharmacy in 1906 and her degree in medicine in 1911, both from George Washington University. In 1912 she began practicing medicine in the District of Columbia.

Dr. Downey was elected an Active Member in the Medical Society in 1914, transferring to Associate Membership in 1929.

She is survived by a daughter, Mrs. Willis Howard, with whom she had made her home at the Shoreham Hotel.

FREDERICK LESLIE BENTON, M.D., F.A.C.S.

(1875–1941)

Dr. Frederick Leslie Benton, ophthalmologist, until recently an Active Member of the Medical Society of the District of Columbia, died April 8, 1941, at his home, White Haven, 4928 Reservoir Road, N. W. He had been in ill health for about three weeks.

Dr. Benton was born in Oil City, Pa., April 2, 1875. He received his early education at Temple University and St. Johns College, Annapolis, Md., his degree in medicine from Columbia University in 1896, and the degree of doctor of science from the University of Havana in 1897. He was a member of the staffs of George Washington and the Episcopal Eye, Ear and Throat Hospitals.

Dr. Benton held the rank of Commander in the Navy when he retired after twelve years of service. He had served as a medical officer in China, Cuba, Haiti, Santo Domingo, the Philippines, Nicaragua and Panama. His wide experience in many countries was reflected in his hobbies—Spanish art, language and literature and the history of the Spanish conquest of the Americas.

An Active Member of the Medical Society of the District of Columbia since 1931, Dr. Benton resigned in 1940. He was a Fellow of the American Medical Association and of the American College of Surgeons. He was also a member of the Army and Navy Club, the American Legion, the Military Order of the Dragon, the Military Order of the Carabao, and the Masonic Order. He was a trustee of the Washington Archaeological Society and the Spanish Institute, and held the Order of Merit from the Dominican Republic.

His wife, Mrs. Edith Keyes Benton, survives him.

EDWARD BARTON JONES, M.D.

(1866–1941)

Dr. Edward Barton Jones, a former member of the Medical Society of the District of Columbia, died suddenly March 8, 1941, at his residence on the Great Falls Road near McLean, Virginia.

Dr. Jones was born in Indianapolis, Ind., August 18, 1866. He graduated from Columbian (now George Washington) University in 1902. During the World War he served with the American Expeditionary Forces in France.

Dr. Jones was a member of the Medical Society from 1909 to 1934, and was a Fellow of the American Medical Association.

Surviving is his wife, Dr. Louise Tayler-Jones, an Active Member of the Society.

(*Continued from page 170*)

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"STAND BY!"*

DANIEL L. BORDEN, M.D., F.A.C.S.
President, The Medical Society of the District of Columbia

During one of the most critical years of our history, it has been my privilege to be President of the Medical Society of the District of Columbia. No one could be unmindful of the honor as well as the responsibility that is associated with this high office. To my fellow members, may I say that I am profoundly grateful for the benefits which I have enjoyed from your trust.

In this day of uncertainty, when no man knows exactly which way to turn, it is my purpose to rekindle the memory of strong men who have had an influence upon my medical career. It is said, "To reminisce is a confession of advancing years." My age was made a matter of record not so long ago. For the first time in my life I had built a craft that was my own idea of a perfect sailboat. Until then I had been happy with used boats picked up here and there. Now, we were to be off. At the appointed time a storm broke with a downpour of rain. Time was limited for we had to cross Lake Ontario to race in Canada the following day. As the last line was cast off, my good wife, standing on the dock, became apprehensive. Here was a new sailboat, untried, venturing forth for the first time in a storm. With a final plea, before interested friends, she called out a last warning, "Remember, Dan, you are fifty years old."

My interest in medicine had its first awakening just before the Spanish-American War, when my father demonstrated to my startled eyes one of the first X-ray machines ever used in this country. After the war, General Sternberg, then Surgeon General of the United States Army, established the Army Medical School at the Army Medical Museum where Dr. Walter Reed held the Chair of Bacteriology and my father, the Chair of Surgery. As a schoolboy I spent many of my Saturdays roaming through the halls of this old building. Here it was that I first met Dr. Reed. I learned of his great contribution to mankind after he had established the mosquito theory of the transmission of yellow fever. And again at that time, I suffered with my father when he had operated upon Dr. Reed for a ruptured appendix that resulted in general peritonitis. Dr. Reed, honored by his profession and acclaimed by a grateful nation, is forever remembered by the Army Medical Center that bears his name.

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* Presidential Address read before the Society, April 30, 1941.

My early student days in the study of medicine were enlightened by a man of great kindness who made his course in anatomy live with his theories of evolution. Loved by all who knew him, he accomplished so much by a kind word or deed that he left a lasting impression. Of all the men whom I have known, Dr. D. K. Shute was the greatest example of the power of kindness. How familiar still is the old freshman yell, "Root, root, root, who knows anatomy, Shute, Shute, Shute." Later, when I was first in the practice of medicine, Dr. Shute called me up one morning to give me the self-starter off his Ford car. In those days, all cars were started by hand, and he had some kind of a contraption that would turn the engine over by pulling a gadget attached to the dashboard. I used this apparatus for many years. Dr. Shute was a grand old man.

CAT.

Top Row (left to right): Buck M. Randolph, M.D.; J. Wesley Bovée, M.D.; General G. M. Sternberg; William P. Carr, M.D.

Lower Row: Albert L. Stavely, M.D.; Samuel S. Adams, M.D.; A. F. A. King, M.D.

And again student days bring memories of Dr. A. F. A. King, perhaps the greatest of all didactic lecturers, a portly, dignified man who could act a word picture and make it live. Those of us who were privileged to be his students will never forget his acted labor pains, passing from the first stage, through the second and third stages of labor, with the final after-labor chill. His classroom was always filled with spellbound students who paid great tribute to this master actor. Dr. King was at the bedside of Abraham Lincoln when the martyred President died. A former president of this Society (1883), Dr. King reached heights unexcelled in the teaching profession.

John Wesley Bovée, the northern New York farm boy who became an international figure in gynecology, stood out as a great clinician. The youngest of nine brothers, he was the genius of his family. In his early days he worked as a farm boy where he became acquainted with my father. Together they struggled through medical school as clerks in a drugstore. Dr. Bovée, with his Kaiser Wilhelm mustache, was Teutonic in his appearance and manner. He taught by rule of fear during times when such tactics were better tolerated than they are today. Many an intern was struck across his knuckles with a pair of scissors for a false or slow move in his role of assistant in the operating room. He was unmerciful in his discipline and sharp of tongue. By this method of teaching, peculiar to his type, he engraved the fundamental principles of gynecology into the very soul of his students. His death, like a part of his domestic life, was tragic.

CAT.

Top Row (left to right): Earl B. McKinley, M.D.; William A. White, M.D.; Francis R. Hagner, M.D.
Lower Row: I. S. Stone, M.D.; Thomas A. Groover, M.D.; Walter Reed, M.D.; D. K. Shute, M.D.

Dr. I. S. Stone, with Dr. Bovée, headed the gynecologic staff during my three-year service at Columbia Hospital. Always the gentleman, he was generous and fine with an understanding of human nature that lacked nothing of finesse. These two leading gynecologists, Bovée and Stone, carried on a war of jealousy that was as petty as it was determined. They would greet each other in the most formal terms, Dr. Stone always calling Dr. Bovée, "Dr. Bo-vee." So far as possible, they would arrive at the same conclusion by opposite routes. Their operating-room technic could never be the same under any circumstances. Today it is difficult to understand the intolerance that played such an important role thirty years ago. Getting into the visual field of Dr. Stone's acute eyes always led to his favorite expression, "Get out of my field of vision." I can hear him still.

Dr. John O. Skinner was a retired army officer whose disposition was controlled by a duodenal ulcer. When the ulcer erupted, Dr. Skinner, in his own way, went right along with it. He was the typical textbook picture of the so-called "chronic dyspeptic." Ulcer and all, as Superintendent of Columbia Hospital, he was twenty years ahead of his time in keeping hospital records. He saw to it that every case record was filed in complete form, a standard now required by the American College of Surgeons as well as the American Medical Association. Dr. Skinner, with his whining voice, made it his duty to direct me along this necessary but trying and tedious path of routine. I now praise and thank him for the explosions of wrath heaped upon my then unsympathetic shoulders.

What doctor is there who has not spent hours of anxiety and worry? It is indeed a part of every physician's life. How well I remember that warm summer afternoon, while I was sitting on the porch in front of the old wooden obstetrical ward of Columbia Hospital, when Dr. Albert Livingston Stavely joined me. Together we had worked and worried over a desperately ill obstetrical patient. In a turmoil of uncertainty, the distracted husband dismissed my good friend. This man of long experience was hurt beyond all measure. How often this same pain of defeated pride comes to all of us in the course of our professional work. As a warning, Dr. Stavely then and there advised me to conquer, for my own peace of mind, the sting of defeat that necessarily is a part of every man's life. How often those wise words have come back to me as I have had to struggle to rise above the burning humiliation of a defeated effort.

Dr. Buck M. Randolph was a teacher. As a clear, dispassionate thinker he was without peer. He could analyze and discuss all phases of any complex problem in the clearest, most concise manner. He always called a spade a spade and made no excuses. Often, in his earlier years, he would become so absorbed in his thinking that his personal appearance became secondary in importance. On more than one occasion this clear-thinking teacher would appear before his class without his necktie. I had one unforgettable experience with this fine gentleman from Virginia. We were caught out aboard my sailboat. Through a night gone wild with rain, wind, and fury, we battled to ultimate safety. The bond of that uncertain experience held a friendship that no storm could shatter.

The last man in this community to accept the use of rubber gloves as an aseptic precaution was Dr. William P. Carr. Like Dr. Bovée, who held to the use of chloroform long after the profession had discarded it as unsafe, Dr. Carr continued to operate with bare hands. But Dr. Carr was a man of unusual ingenuity. Given a problem, he would solve it by the constructive approach. Today there still exist at Emergency Hospital instruments made by Dr. Carr to fit some special problem. I liked his gruff honesty. Having inherited his displeasure from some administrative difficulty that occurred years before when my father and he came to the parting of ways, Dr. Carr was fine enough to tell me to my face that, as long as he was the head of the surgical department at Emergency Hospital, my name would never appear on its staff. Although I could not entirely agree with the fairness of his convictions, I admired his frank courage. By his direct manner I knew exactly where I stood, and that ended the matter.

Dr. Samuel S. Adams, a former president of this Society, exemplified to the last degree the optimist. Never have I seen a man who could face apparent adversity with a smile and an ability to overcome difficulty. Medical and financial problems rested lightly on his shoulders. He was an inspiration to those who stood still in doubt. His accepted and practiced psychology of life was so sound that it radiated confidence. He exerted an influence on patient and friend alike. He was a man who believed in recreation. To the day of his death he mixed the practice of medicine with a regular vacation, an example well worth emulating.

Upon assuming the deanship of my alma mater, Dr. Earl B. McKinley filled the office at George Washington University School of Medicine vacated by my father. My contacts with Dean McKinley became very personal and close. We disagreed on many of the University's administrative issues, but we retained our friendship to the end. To have known the McKinley I knew would have been an inspiration to any man. He was an idealist to the point of fanatic determination, but no amount of adversity cooled his ardor or his enthusiasm. Dean McKinley's tragic death, occurring just before he was to have entered into a new field of endeavor, was a blow to me, for I had looked forward to many years of his companionship. He took his fatal trip against my spoken advice. In these days of tragic world events, piling up, one upon the other, we become callous to tragedy. Months after the China Clipper was lost the report of the Investigating Committee was made public. Because of its interest I quote a part of its conclusions:

"A widespread and intensive search by surface vessels and aircraft failed to disclose any evidence as to the whereabouts of the Clipper.

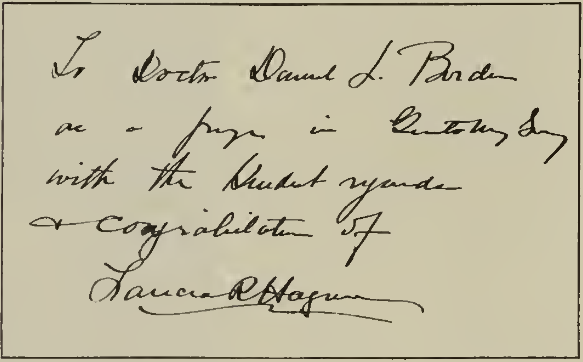
"The chemical analysis of the oil samples obtained by the officers of the U. S. Army Transport 'Meigs' definitely establishes the fact that there was no connection between the oil slick discovered by them and the disappearance of the Clipper.

"The report from the Island of Lahuy that an aircraft was heard flying in the vicinity above the clouds on the afternoon of July 29 cannot be ignored."

Dean McKinley's departure is still shrouded in mystery.

Dr. William Alanson White, who frequented this hall, held spellbound all who heard him speak. Dr. White was an approachable physician who made it his business to attend medical meetings. It has been my privilege to talk with him on many occasions and I always felt it significant of the real nature of this great speaker that he admittedly became very nervous before addressing an audience. To his listeners he was apparently self-possessed. A flow of perfect diction emanated from his mind. He may have spoken under tension, but this very strain stimulated thoughts that resulted in perfect understanding.

Honored by his profession, recognized by his alma mater with an honorary degree, indicted with our own Medical Society by his Government on a criminal charge, Dr. Thomas A. Groover was an outstanding medical witness. Endowed with a quiet, cool, deliberate capacity for thoughtful analysis, unruffled by any attorney, he carried great weight on the witness stand. The loss of one arm, a mute testimony of his long experience with X-ray, his fine, kindly face radiated truth that no jury could question. It was a great source of sorrow to him, and a severe blow to the medical profession, that his prophesied death occurred when an unproved criminal charge darkened his final days.


To Doctor Daniel L. Borden
as a prize in Genito Ury Surg
with the kindest regards
& congratulations of
Francis R Hagner

Inscription in Book Presented by Dr. Francis R. Hagner.

On April 5, 1920, ground was broken for the construction of this medical building. Dr. Francis R. Hagner, then the president of the

Society, turned the first spadeful of earth. My first contact with Dr. Hagner came during student days when I won his prize in genitourinary surgery. To this day I treasure his personal message written to me twenty-nine years ago. Aside from his professional attainments, Dr. Hagner will always be remembered for his ready wit and ability to fit a story into any occasion. His easy, cheerful manner, his infectious laugh have brightened many a sickroom.

It was Dr. Hagner who stood on this platform and nominated me for the high office it has been my privilege to fill for the past year. I now acknowledge my appreciation for this gracious gesture.

I point to the inspiration of Reed, the kindness of Shute, the ingenuity of Carr, the optimism of Adams, the enthusiasm of McKinley, the wit of Hagner, the sincerity of Groover, the judgment of Randolph, King the demonstrator, Bovée the clinician, and Stone the gentleman. If there ever be doubt or wavering, we can always turn to the inspiration of the men who have made this Society live. Our Society has been blessed with a heritage that has become a tradition. No greater strength comes to man or state.

We have worked together for the last twelve months. Our term of service has been filled with stirring, but at times critical, events. Our year began with the Annual Scientific Assembly. The Assembly is now a pleasant memory, but its glorious success brightens a page of our history and reflects great credit to those responsible for its achievement.

Our first athletic program included tennis and golf tournaments.

On December 2, 1940, the Medical Bureau opened its doors to become an essential part of our organization.

Attendance at our meetings has given your officers a great deal of concern. An effort to solve this difficulty is now under way. It is the opinion of many of our members that, in order to concentrate more and more on our Medical Society, some drastic action is needed to eliminate some of the many demands now placed upon our time by an overabundance of smaller medical groups.

The scientific programs for the past year have been excellent. I know, for I have heard every one of them. There has been a diversity of subjects with many out-of-town speakers of national reputation.

The challenge of National Defense has been squarely met by your Society. The Committee on Medical Resources has given hours of work to perfecting the program in the District. Hospitals of the city have given valuable assistance. Over 175 of our members, working semi-weekly at night, have completed physical examinations of over 15,000 draftees. This work has been done on a voluntary basis, without compensation, truly a proof of the patriotic response of the medical profession. Many of our members are in uniform, many more will follow.

My remarks would be incomplete if I did not make some reference to the Government's Anti-trust trial, which required two months to complete its initial stage before the United States Criminal Court of the District of Columbia. To us, the filing of a criminal charge against a group of our outstanding and honored members was a shock that rocked the very foundation of our Society. Our confidence was further shaken when we were declared to be practicing a "trade" within the interpretation of the law.

For eight and one-half weeks we stood before a criminal bar, while a lay jury sat in judgment. Early in the trial the unforgettable words of Tom Groover were read into the record, words that were to be the keynote of our defense:

"I believe that the medical profession, as a whole, would be perfectly willing to waive almost any consideration if they could be convinced that it [referring to Group Health Association] would not tend to the deterioration of the quality of medical care. The medical profession, generally, believes that now. They may be wrong, but they are overwhelmingly of that opinion. It is difficult to convince a layman of that, I know, and perhaps to do so would be an almost futile undertaking." (July 26, 1937)

Day in and day out we lived through the reading of testimony, recitals of witnesses, and prolonged legal discussions at the bench. We suffered both anxiety and fatigue in an ill-ventilated courtroom. Legally, we were represented by the best. Long hours of their constant, sympathetic companionship cemented a friendship that I will always cherish. Working into the small hours of every morning, our lawyers were well prepared and reached great heights of perfection in our behalf. The verdict of the jury was dramatic in its setting. Twelve hours of waiting and nerve-wracking suspense brought an agreement close to the midnight hour. The verdict fell upon a tense, hushed court room, a moment that will live in the history of our Society.

CAT.

William Cline Borden, M.D.

Is it true that the compromise, split verdict points to the trend of our times? Does this verdict stand as a cardinal symptom of a grave disease with a problematic prognosis? In nautical parlance, I admonish the medical profession to "stand by." Our Society is still on trial. Under the circumstances, we can do no better than to follow the cool, deliberate, sound but determined judgment exercised by the men whose lives we have reviewed tonight.

Words cannot express my appreciation for the splendid work done by all committee chairmen and members during the past year. I extend my thanks to the Executive Board; to Theodore Wiprud, Secretary of our Society, whose ever helping hand has been a source of great strength; to the Woman's Auxiliary; to the office force; to Dr. Frank Speidel, who has drawn the cartoons for the President's Page in the *Medical Annals;* and finally to the group, under the leadership of Dr. Robert Harmon and Dr. John A. Reed, which is responsible for the program tonight.

To your President-elect, I extend my best wishes and pledge him my unqualified support. Lincolnian in appearance and judgment, Dr. Henry R. Schreiber will give leadership of the highest order.

May I be pardoned a very personal allusion? It has been my firm conviction that in bestowing the honor of the high office I am soon to relinquish, you recognized in part, my father, who for many years was an active member of this Society. He held the unique distinction of serving both of our great universities, first at Georgetown University as Professor of Military Surgery, and later as Dean of George Washington University School of Medicine. To him, who was my preceptor, I acknowledge this final tribute.

SOME MENTAL PROBLEMS OF AGING AND THEIR MANAGEMENT*

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Until the last few years the various medical and social problems incident to the process of getting old had been taken more or less for granted. It was recognized rather vaguely that persons did become aged and that certain problems arose as a result, but it is only within the past few years that much special attention has been given to the latter years of life. It is rather doubtful, indeed, whether any medical school at the present time has a chair of geriatrics. It was only about two years ago that a committee on the Biological Processes of Aging was established in the Division of Biology and Agriculture of the National Research Council, and it is only within the past few months that the National Advisory Committee on Gerontology has been set up by the Surgeon General of the United States Public Health Service in the National Institute of Health. Mention may likewise be made of the volume, "Problems of Ageing" edited by E. V. Cowdry in 1939, while on the socio-economic side we find the rise of the "Townsend movement" and the passage of legislation on the subject of old age pensions as directing attention to the aged as an important group. The primary reason for the increased interest in the elderly probably is that there are more of them. Whereas in 1900 approximately 4 per cent of the population were over 65 years of age, in 1935 the proportion had risen to 6 per cent; and it is authoritatively estimated that by 1980 approximately 15 per cent may be expected to fall in this age group. The factors in this changing composition of the population are numerous. Infant mortality has been strikingly decreased. The reduction in incidence of epidemics of various infectious diseases, such as typhoid fever and diphtheria, has been startling, and improved methods of treatment such as the use of the sulfonamides in pneumonia have reduced mortality in the younger age groups. Immigration has undergone a vast decrease, and the birthrate is falling. Furthermore, in spite of the startling death rates from automobile accidents, the total incidence of violent and accidental death has been substantially reduced in the present century. As a result, the expectation of life at birth has increased from 1911 to 1936 by 13.6 years, while for a person at the age of 10 the expectation of life has increased by 8 years. Similar gains do not hold true in the upper decades, however, and at the age of 55 the expectation of life is only 2¼ years greater than it was a quarter of a century ago. In other words, more people are living to be old, but degenerative diseases in the upper age brackets still persist, and indeed some of them show a marked tendency to increase.

A good deal of concern has been caused to administrators of mental hospitals by the startling increase in admissions to those institutions of persons 60 years of age and over. In the decade 60 to 69, for example, the admissions per 100,000 of general population increased in the quarter century 1910 to 1936 from 114 to 191, or 67½ per cent, and those in the age group 70 and over increased from 184 to 418, or 181 per cent. Indeed, the increase in admissions to mental hospitals for psychoses due to cerebral arteriosclerosis has increased 536 per cent in 25 years! It is facts of this sort which enable Dayton in his recent volume, "New Facts on Mental Disorder" to state categorically that "mental disorder is a disease of old age." They are mentioned here as indicating the possible interest to the general practitioner of a brief consideration of some of the mental problems of aging and their management.

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* Read before the Society, January 15, 1941.

Before proceeding to a consideration of the symptomatology, one may inquire as to the fundamental nature of the process of aging. These are questions which at the present time cannot be dogmatically answered, but they indicate to what extent basic research on the entire problem is called for.[1] First of all, is aging due to inevitable changes inherent in the existence of tissue? There is some indication that some organs, such as the eye, have a long potential period of life and usefulness, whereas other organs, such as the thymus and the gonads, tend to age relatively early in life. On the other hand, may we consider aging as a disease, that is, as the result of avoidable toxins? If such is the case, life may perhaps be extended almost indefinitely under ideal circumstances. As a third possibility, may we say that aging is a result of cumulative damage inflicted by the environment; or finally, may it be due to disease processes which occur most frequently in the aged but are not necessarily directly related to the passage of time? The answers to these questions in the minds of those who hear them may be tentatively answered partly on the basis of fundamental philosophy and perhaps in part on the basis of the age of the listener! Another question and again one which depends somewhat upon the age of the answerer is: Just when does aging begin? Certain it is that some organs generally start to grow old earlier than other organs, but we may find persons in whom the most of the organ systems start to age prematurely, whereas in others age seems to be almost indefinitely postponed. In some, one or more organs may exhibit signs of aging early, whereas other organs are apparently spared or but slightly affected. The matter of when old age begins is a highly individual one, and as a result the problems presented by aging persons will differ highly according to the individual. There are, however, certain general statements which may be made and certain principles which may be laid down.

One of the fundamental alterations accompanying the process of aging is probably a change in the water content of the body. This is illustrated by the apparent shrinking of the individual, by the wrinkling of the skin with accompanying dryness, but more fundamentally it probably results in a condensation of the colloids and in turn in a decrease of elasticity, as in the arteries. There is likewise a decrease in the rate of replacement of tissues. Wounds, for example, heal much more slowly as a result. This lack of elasticity is indicated, too, by the stiffness and difficulty in relaxation and the increased tonus of muscles, classically illustrated in the shuffling gait of the senile. Various regressive changes take place, such as prostatic hypertrophy, changes in the kidneys, arteries and heart, the general loss of muscle tone, loss of sexual power, and the decrease in perceptive ability. Various tremors and choreiform movements may be noted. These are but examples of the waning physical powers of the aging person.

At the same time, and perhaps even more important, are various changes which involve the adjustment of the individual to his environment. In our present civilization as contrasted with the Chinese, where, if anything, age is overvalued, old age is generally looked upon as an affliction; that is, the cultural attitude is one of undervaluation of the aged. This tendency is perhaps, if anything, being increased at the moment by the present industrial policy of laying off workers when they reach the age of about 45 or 50. Such a policy sets up at a rather early age a feeling of insecurity, a conviction that the individual is not wanted, that he is useless, and it adds much to the mental hazard of advancing years. This feeling of superfluousness is accentuated by the fact that the aging person sees his friends of former years dying about him. Accompanying this is a difficulty in adjustment to new things, a lack of ability to make new friends, with a resulting sense of loneliness. At the same time he finds that his perception is not so prompt, that the span of his recent memory is shorter. When this loss of memory and feeling of uselessness are accompanied by a lack of inner resources, the plight of the aging person is difficult indeed. The development of outside interests and of hobbies cannot be overemphasized as a valuable contribution to the mental hygiene of old age. As a compensation for a feeling of uncertainty in an uncertain world, an increase in conservatism is often developed, with a tendency to talk of the "good old days," to live in the past, and to be less tolerant of change. This is one of the factors which cause considerable domestic disharmony at times when an aging relative is a part of the household. In both sexes, but particularly in the male, one often finds a fear of sex failure with its resultant serious threat to the integrity of the personality. This is often compensated for by fantasy during which the old days are relived. As disorganization of the personality becomes more marked, we may find in elderly men a tendency to break through this fantasy and to make sexual advances to small girls. A general narrowing of interest takes place with selfishness, querulousness and petty grievances. Judgment is impaired and there is increasing preoccupation with the bodily functions, particularly those of the gastrointestinal tract.

One of the mental problems arising in general practice is the development of a depression in persons who are in the involutional period. Indeed, this age period has given its name to a depression occurring at this time, namely, involutional melancholia. There are other depressions which may occur at this period or later, but they all call for attention. The involutional type of depression is likely to occur in the rigid, inhibited, humorless and overconscientious type of person. With the failing of the gonadal system, with possibly an early arteriosclerosis developing, and with a sense of frustration and realization that the twilight is descending, it is perhaps not strange that some persons find it impossible to adjust themselves to the situation and retreat into a depression. Among the early symptoms are insomnia, irritability, poor appetite, loss of weight, apprehensiveness and restlessness. As the symptoms increase, the patient paces back and forth, constantly repeats phrases indicating remorse, expresses fears as to what is to happen to him, and ideas to the effect that he has been an extremely sinful person whose soul is lost. There are often various delusions as to the body, particularly the stomach and intestines, these delusions being nihilistic in nature. He is certain that his stomach and intestines have been consumed, and that therefore he cannot eat. There is a fear of death, and yet paradoxical as it seems superficially, suicidal attempts are common. In the earlier stages the treatment is symptomatic, and sometimes temporary relief can be given by substantial doses of hypnotics. In spite of the fact that gonadal involution appears to be a factor, endocrine therapy of this condition has so far not been conspicuously successful. Fundamentally, however, a case of this type cannot well be cared for at home, and is far better off in a hospital where proper supervision and protection can be given. The prognosis is only fair, the recovery rate being about 40 per cent, and the duration sometimes several years.

As has already been indicated, arteriosclerosis is one of the processes which may be looked for as part of the process of aging. This process may be generalized but in some instances appears much more markedly in the vessels of the brain than in the general arterial system. The ophthalmoscope, which should be used in any thorough physical examination, may reveal sclerosis of the retinal arteries, and in such a case it may safely be suspected that a similar process is under way in other portions of the blood supply of the brain. This process may in turn be largely confined to the larger cerebral vessels, those at the base of the brain, or the smaller cortical vessels. From the point of view of behavior we are likely to find rather subtle changes in personality, a tendency to easy fatigue, increasing emotional instability and sometimes sudden attacks of weeping or of anger. Memory disturbances may be mild or severe. The patient appears childish and petulant, exhibits poor judgment, sometimes to such an extent as to cause rather serious financial embarrassment, the capacity to think is impaired, and interests are somewhat narrowed. There may be mild periods of confusion, and marked loss of attention to the personal appearance may be noted. Failing inhibitions and increasing overindulgence in alcohol or flagrant sexual indiscretions may be observed. One of the striking features in the early phases is the fluctuation, the patient sometimes appearing much better at one time than at others.

One of the important features in the management of cases of this type is that we should avoid over-invalidizing the patient. Forced inactivity may aggravate a tendency to hypochondriasis and this may in turn exert a deleterious influence upon the course of the patient's disorder. Light activities consistent with the physical condition should be encouraged. Forgetfulness may be made less conspicuous if the patient is encouraged to carry a scratch-pad with him, and some form of mild activity, at least about the house, should be encouraged. On the other hand, it is often necessary to relieve the patient of business activities on account of his increasingly poor judgment. Frequently in the large vessel type of sclerosis cerebral hemorrhage occurs, often preceded by periods of vertigo and transitory loss of muscular power in an extremity. If the patient survives the hemorrhage he will often be found to have shown considerable increase in his mental symptoms, such as loss of memory, confusion, and emotional instability. At this point encouragement is extremely important to prevent a tendency to self-pity and a feeling of hopelessness, which are often noted in the hemiplegic. The mental deterioration may be so marked that the patient becomes a serious nursing problem and may indeed require institutional care. This is especially true of the restless type who attempt constantly to get out of bed, who are incontinent and who may, through the development of suspicions against those about them, even refuse their food. Sometimes, instead of a typical cerebral hemorrhage, rather serious epileptiform or apoplectiform attacks occur with only transitory paralyses following, but usually succeeded by marked confusion. Patients of this type often deteriorate mentally rather rapidly, and it may be entirely impossible to care for them in the home.

Cases like those just described usually occur in the age period between 50 and 65. Mental changes, however, frequently occur in persons who survive this era of life without marked arteriosclerosis. The pathologic changes in the brain in these cases are usually diffuse, although, as is to be expected, some evidences of arteriosclerosis may be found. The period of dotage may begin as early as 65, whereas from time to time very aged persons are found who are apparently unscathed mentally. Dotage is generally looked upon as within normal limits, and is characterized largely, as we have already said, by a mild tendency to forgetfulness, to a narrowing of interests and to a tendency to live in the past. The borderline between dotage and definite mental disorder is a shadowy one. A definite psychosis in an elderly person may be precipitated or at least markedly aggravated by serious illness or by a surgical operation. Ordinarily, however, the progress is rather slow and in the earlier stages may be somewhat fluctuant. The forgetfulness gradually increases; the patient may tend to blame others for his inability to find things where he thinks he has put them. He may develop the idea that the family are trying to be rid of him, are trying to secure his property, and otherwise are discriminating against him; unfortunately, on some occasions this is no delusion but is all too true. In the vast majority of cases, however, the basis for such ideas is more a question of thoughtlessness and lack of sympathy than one of malice on the part of the rest of the family.

A patient of this type may often make a very comfortable adjustment outside of the home, particularly if he can be placed with other elderly persons with whom he may feel at ease. The difference in viewpoints between the old and the young has always existed and probably always will. Sometimes the suspiciousness develops into frank delusions of poisoning or being robbed, and sometimes in the former case we find very marked disturbance of the eating habits of the patient. It has been shown recently that some of the acute senile deliria respond amazingly to vitamin therapy, a fact which may indicate that the vitamin reserve is low in elderly persons and that a small disturbance of intake may have rather marked effects.[2]

A disturbance of the sleep rhythm is not uncommon in the elderly. There is a tendency to doze after meals and at other odd times during the day, while at night the patient may be wakeful. This wakefulness may develop into what is known as night prowling; that is, the patient may become so restless at night that he wanders about the house or even out of doors. Occasionally, feeling chilly, he may attempt to light a fire, sometimes with serious results. Again, if he roams out-of-doors he may come to harm. Patients of this type, unless they respond favorably to warm baths and drinks at bedtime, or to hypnotic medication, soon take their toll of the rest of the family and require institutional care.

Once the early stages of psychotic behavior of this sort have been passed, the progress is likely to be fairly even, rather than fluctuant. The forgetfulness and confusion increase, incontinence develops and there is a gradual reversion to an almost vegetative level. Such patients are essentially nursing problems but often on account of lack of other suitable facilities are sent to mental hospitals.

One interesting type of senility is known as presbyophrenia, a condition in which the disorder of memory is covered up by free confabulation. The patient may not remember where he was ten minutes before, but rather than admit this he evolves a fanciful story which may be suggested to him by the examiner or may be evolved from his own fantasy. This is an interesting example of compensatory activity on the part of old persons. Another type of compensatory activity which has rather serious social consequences lies in the attempts of some senile patients to relive their youthful sexual activities. Sexual advances either in the line of fondling or exposure of person may be made upon very small children. This is, of course, done to compensate for the loss of sexual power by fantasying sexual activity. Patients of this sort may not appear especially demented even though the conduct is highly anti-social, and more than one person of this type has undoubtedly been sentenced as a criminal, whereas he should have been sent to a mental hospital.

As a general proposition it may be said that mental hospital care should be thought of for cases of mental disorder in the aged only as a last resort and after every attempt at home care or nursing in a nursing home or some similar institution has been exhausted. With the change in living conditions, and particularly in the District of Columbia, where many families live in apartments rather than in separate houses, much greater disorganization of the home takes place by the presence of a patient of any of the types just described. They may be cared for reasonably well in suburban or rural areas, whereas the family's conditions of living make it entirely impossible in a congested urban area. Many of these patients are essentially nursing problems. They are suffering from a condition which is for practical purposes irreversible and progressive, and by the very inelasticity of old age they do not adjust well to new conditions of life. The care and surroundings in the best of mental hospitals are considerably different from the conditions which are found in the home, and a measurable proportion of elderly persons react adversely to them.

In general, it may be said that the indications for considering mental hospital care for patients of this type are: (1) conduct, such as sexual advances to children, which may roughly be denominated as criminal, and intolerable from the social point of view; (2) a persistent tendency to wander away while confused, to set fires or cause serious danger to himself or others; and (3) a situation in which the patient is such a serious nursing problem because of untidiness, restlessness, or noisiness, that he cannot be cared for at home within the means of the family.

Only a few of the many mental problems of the aged have been considered here. To enumerate them all would be to cover the entire field of geriatrics, a big task indeed. The one emphasis which may be offered is that the patient must be treated as a whole, that his behavior as a social unit is affected by all of the changing physiologic conditions within him, whether those be cardiac, arterial, or prostatic, and that the entire process of aging is one which tends to make his conduct less adjustable to the needs of the environment. With decreased adjustability come increased problems of behavior. We must bear in mind that the aging person is undergoing changes of attitude as well as of body, which are largely irreversible and progressive, and that with the progress of these changes all of the ingenuity of the practitioner and all of the sympathy and understanding of the family and friends of the patient are called for.

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Protection of young children against tetanus now practical. Combined immunization against tetanus and diphtheria of infants and young children is both practical and possible, John A. Bigler, M.D., and Marie Werner, S.B., Chicago, declare in *The Journal of the American Medical Association* for May 24, 1941 in a report on their observations over a two-year period of 240 children so immunized.

"Although the incidence of tetanus has steadily declined," the two authors say, "there are many reasons why active immunization against the disease would be advantageous." They point out that the rate of mortality from tetanus in the United States in 1930 was 1.1 per hundred thousand and that although children constitute less than 30 per cent of the population, 50 per cent of the deaths from tetanus were among them.

Passive immunity is a temporary condition induced when a serum is obtained from immunized animals and introduced into human beings. Such serums are known as antitoxins. Toxoids are toxins or poisons produced by disease agents which have been so treated as to reduce their toxicity for human beings while retaining their ability to stimulate the production of antibodies which combat disease. This creates what is known as active immunity.

"Children are probably the age group most likely menaced by tetanus from the contamination of wounds with soil," Bigler and Werner state. "The infection may develop from the most trivial of injuries. Although passive immunity with prophylactic [preventive] injections of antitoxin is highly effective, all who treat children know how difficult are the decisions to be made as to whether antitoxin should be given. The wound may be so slight or of such a nature that the parent does not seek medical aid or is not aware of the injury. Antitoxin may not be readily available, the child may be allergic, he may have received serum previously and there is always the possibility of the ever frequent serum sickness. . . . Often, too, in delayed infections the disease will develop after passive immunity has disappeared. These are some of the reasons that speak for some method of active immunization against the disease."

Two injections of 1 c.c. of the combined toxoids of tetanus and diphtheria or three injections of 0.5 c.c. produce an adequate basic immunization, the two authors found in their observations of the 240 children. Intervals of three months or more between injection enhance the response of antitoxin or antibodies in the child. They found that there were no more failures in immunization against tetanus than in immunization against diphtheria. The practical value of the latter has been well established.

"Because of the uncertainty which is still present as to the response of children immunized against tetanus to an infection with tetanus spores," they say, "it is advisable to give a stimulating dose of tetanus toxoid when a suggestive injury occurs.

"For the child who has already been immunized against diphtheria and who is to be immunized against tetanus it would seem advisable but not necessary to give the first injection of the combined toxoids and the second injection of tetanus toxoid alone, or, if one so desires, the combined toxoids can be used for both injections."

Although it has not been established as to how long the immunity lasts, the authors point out that as yet there have been no cases reported as occurring in men or in horses who were immunized several years ago. The number so immunized has been large.

PRACTICAL THERAPY WITH VITAMIN K*

A SIMPLE RECLASSIFICATION OF HEMORRHAGIC DISEASES DUE TO A DEFICIENCY OF BLOOD PROTHROMBIN

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It has been established by scientific laboratory and clinical investigation that there exists a fat-soluble food factor, the absence of which in the diet of chicks causes the blood to clot slowly. This factor is known as vitamin K. The successful use of this vitamin depends on the practical knowledge of the administrator. If this knowledge be confined solely to its unscientific administration, then vitamin K may be relegated soon to the tragic abuse of other such substances. That is the reason that practical therapy with vitamin K should mean practical knowledge of vitamin K.

History in Brief

An unknown bleeding disease in chicks gave Dam[1] the clue in 1935 that there existed an unknown substance necessary for the clotting of blood in young chicks fed for several weeks on a fat-free diet. To this substance he gave the name vitamin K. The food factor was found to exist in hog liver fat, spinach and kale. That same year, Quick,[2] with the perfection of a simple and accurate test for the determination of prothrombin, proved that the delayed clotting time was due to a depletion of the blood prothrombin. The addition of alfalfa corrected the deficiency. Soon other laboratories reproduced similar experiments, and it was discovered that bile salts was necessary for vitamin K to be absorbed from the upper intestinal tract.[3] Still shortly after it was found that bacteria synthesized vitamin K both in putrefying food and in the intestinal tract.[4] Finally, by subjecting laboratory animals to varying degrees of hepatectomy, it was discovered that the liver was the organ responsible for the elaboration of the blood prothrombin.[5]

Clinical investigators[6] quickly confirmed the laboratory findings and soon patients with biliary obstructive jaundice and severe liver damage were found to have low prothrombin levels. The bleeding that usually followed surgery for the relief of obstructive jaundice was quickly arrested by the administration of vitamin K. The bleeding associated with liver damage was not as easily stopped. Diseases of the gastrointestinal tract usually accompanied by hemorrhage were found to be associated with hypoprothrombinemia, and the deficiency in the majority of cases could be promptly corrected.

In the category of bleeding diseases were to be found the strange hemorrhages that frequently affected newborn infants. This disease encouraged the investigation of prothrombin levels in the newborn. During the year of 1939 it was established that in the first week of life profound fluctuations occurred in the prothrombin concentrations of the newborn infant. Many of these prothrombin depressions were found coëxistent with hemorrhagic disease of the newborn, and vitamin K was successfully used to correct the disorder.[7]

Identification of Vitamin K

The exact nature of the vitamin remained unknown until the laboratories of St. Louis University[8] announced that both alfalfa and putrefied fish meal had a quinoid structure. About the same time phthiocol, isolated from the tubercle bacillus, was found to possess strongly antihemorrhagic properties. Alfalfa was designated vitamin K_1; putrefied fish meal, vitamin K_2; and phthiocol, vitamin K_3. A similarity in their quinoid structure can be seen.

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* Read before the Society, February 26, 1941.

Very shortly after that the Squibb Institute succeeded in producing a synthetic impurity of vitamin K_3 which was 2-methyl-1,4-naphthoquinone. This vitamin K_4 possessed the greatest antihemorrhagic property of all and appeared to be the least toxic. A salt of vitamin K_4 was produced which was called vitamin K_5. The last three mentioned were synthetic preparations.

It took science exactly 18 months to completely identify a new vitamin that had been discovered only three and one-half years previously.

LABORATORY DETECTION OF HYPOPROTHROMBINEMIA

Although, as in the case of the chick, the coagulation time can be an indication of the relative prothrombin concentration, it is necessary to rule out a deficiency of the other blood-clotting factors. Since this would entail a difficult laboratory routine, it is simpler in most cases to determine by laboratory means whether or not a state of hypoprothrombinemia exists. The tests available for this determination have recently been simplified to the extent that they are easily performed by the smallest laboratory. Prothrombin can be obtained as a white powder in amounts of about 40 mg. per 100 c.c. of blood. This method is too detailed for the ordinary laboratory to perform. Howell's inaccurate method has been replaced by Quick's method and the two-stage method of Smith, Warner and Brinkhous. Many modifications of the former are being used at present. If venous blood is available, the Quick method is preferable. The method of Smith, et al. measures the amount of thrombin formed from a dilution of plasma which clots 1 c.c. of a known fibrinogen solution in 15 seconds. The dilution of the plasma from which the thrombin is formed is taken to be a measure of the existing prothrombin. A dilution unit of 300 is considered normal. The reading of the Quick test is the time required for a clot to form when a solution of 0.1 c.c. of oxalated plasma, 0.1 c.c. of thromboplastin solution, and 0.1 c.c. of M/40 calcium chloride solution are quickly mixed. M/10 oxalate solution is used. An extract of rabbit brain in 5 c.c. of normal saline is used as the source of thromboplastin which is commercially available (Digestive Ferments Co.). Ampules of lyophylized rabbit brain extract for office work will be available soon.

If it is impossible to obtain venous blood (the blood must be mixed with sodium oxalate solution in a proportion of 9:1, and as little as 0.9 c.c. can be used), about 10 to 15 drops of capillary blood can be mixed with 0.1 c.c. of the oxalate, and this whole blood used in the test unless the small amount can be centrifuged and the plasma obtained. White blood cell counting pipettes can be used. The blood is drawn up to the number 1 mark and expelled into a depressed slide. Then another pipette is used to draw up the thromboplastin solution, and finally the calcium chloride is quickly added with another pipette. The mixture is agitated by a fine stream of air from the pipette held in the mouth. About 20 to 30 seconds later a clot will suddenly form. The time required is compared to a normal control, and the ratio between the two is called the prothrombin index. The greater the index (1 is normal), the lower the concentration. If the Quick test be used (and it is more accurate), then 12 seconds is the normal, and the concentration is derived by the use of the Quick formula. It is usually accurate enough to compare the prothrombin clotting time to a control.

Because capillary blood becomes contaminated with tissue juices and allows for a part of the clot to form immediately, it is advisable to use oxalated plasma obtained from venous blood. The tests should then be performed within 4 to 8 hours or sooner.

By these methods the available prothrombin can be measured. The method of Smith et al. measures the existing amount of prothrombin. Both are indirect measures. With the use of the Quick method it has been found that in many cases nearly 80 per cent of the available prothrombin can be lost before a delayed coagulation time is noticed. A concentration between 75 and 100 per cent is considered normal. Between 50 and 75 per cent slight hemorrhage will quickly deplete an already low prothrombin. From 20 to 50 per cent of normal trauma will usually initiate hemorrhage. Below 20 per cent of normal spontaneous hemorrhage is very common. It is easily seen that a normal coagulation time may at times mask a subclinical form of hypoprothrombinemia. The test for the determination of prothrombin should be performed in any case of suspected hypoprothrombinemia.

Clinical Detection of Hypoprothrombinemia

The diseases in which there exists a state of hypoprothrombinemia are divided into three great groups.

The liberation of a toxin from spoiled sweet clover hay will cause fatal hemorrhages in cattle, due to a hypoprothrombinemia. No similar disease exists in mankind. In diseases which destroy a part of the function of the liver there exists a condition of hypoprothrombinemia which usually does not respond to vitamin K therapy. It is noted that the Quick test has been used as an indicator of liver function. Finally, the third great group of diseases includes those due to a K-avitaminosis. Under this group are found those diseases in which the avitaminosis is purely dietary and those in which the vitamin, although adequate in the diet, is not absorbed from the intestinal tract. It is necessary to mention only that the many diseases giving obstructive jaundice are included together. Other diseases indicated on the chart present conditions in which the vitamin is not absorbed from a diseased intestinal tract and also diseases in which the passage of feces is accelerated through the gastrointestinal tract.

It is of interest to note that the conditional triad of erythroblastosis fetalis is associated with a decreased prothrombin concentration. If given sufficient vitamin K these infants will not develop hemorrhages, and therapy in the form of transfusions will effect a cure. It is not the vitamin K that cures, as some authors have indicated, but rather the prevention of frequent fatal hemorrhages allowing the infant to live long enough to be cured by other means.

Only in the newborn infant does a purely dietary K-avitaminosis exist. Shortly after birth the prothrombin level drops from near normal to dangerously low levels. By the third day many of these infants will have a normal prothrombin concentration and by 5 days of neonatal life almost all will have normal concentration. As indicated on the chart, this period has been called the physiologic hypoprothrombinemia of the newborn. It is during this period that the newborn is a potential candidate for a hemorrhagic disease. The physiopathology of this hypoprothrombinemia is a dietary deficiency of vitamin K. The newborn receives very little of the vitamin during the first day or two after birth because breast milk contains only one third of a unit of vitamin K per 1 c.c. Also, the newborn intestinal tract is sterile at birth and it is impossible to obtain the vitamin from that source. However, with the first intake of food a bacterial intestinal flora is immediately established, and vitamin K is formed immediately. A certain delay occurs in the absorption because the hepatic and biliary functions are not complete until the fourth day of life, but by the fifth day a normal concentration can be expected.

The simple procedure of feeding infants almost immediately after birth will eliminate this drop in prothrombin. It has been found that the feeding of small amounts of colostrum will accomplish the same purpose. Globulin, which makes up the greater part of colostrum, is absorbed directly into the blood stream and probably becomes associated with prothrombin.

Thus, the denial of colostrum to infants has been a mistake in the proper care of infants.

The existence of a potential hemorrhagic state has called attention to the fact that hemorrhagic disease of the newborn occurs during these same periods.[9] The cause of hemorrhagic disease of the newborn is a delay in the restoration of the prothrombin level to normal.[9] There is the possibility that some toxic factor hastens the downfall of the prothrombin and allows for the hemorrhages to occur. The incidence of hemorrhagic disease of the newborn is greater in hospital babies than in babies born in homes under far less sanitary conditions. Infants who have the opportunity of establishing an earlier intestinal flora have fewer chances of developing hemorrhagic disease of the newborn. This disease which has puzzled clinicians for nearly 250 years does not occur frequently if the older criteria of diagnosis are accepted. Only about 5 babies in 1,000 develop the disease according to older clinicians, but if a reclassification is offered to include other conditions of hemorrhage, then the disease becomes rather common.

It is important to recognize that both clinical and subclinical forms of the disease can occur. All forms are accompanied by a low level of prothrombin. The subclinical forms of hemorrhagic disease of the newborn manifest themselves as petechial hemorrhages into the serous and mucous membranes of the body. If not looked for, they usually escape detection. If routine stool examinations for blood in the stool are made, most infants will show melena up to 4 days of age. Also, routine spinal punctures reveal that over 12 per cent of infants will have xanthochromic spinal fluid in which can be found red blood cells. During this period the spinal fluid pressure may be increased and the diagnosis of serous meningitis of the newborn is frequently made. Coëxistent with these findings, it has been found at Columbia Hospital, Washington, D. C., by Dr. Costenbader, that in 150 normal newborn infants the incidence of retinal hemorrhage was 12.3 per cent. In 15 babies whose mothers were given 2,000 units of synthetic vitamin K at the onset of labor, no retinal hemorrhages were discovered.[10]

Normally the prothrombin levels are restored quickly and gross hemorrhage is usually prevented. However, should there occur a delay in the restoration of prothrombin concentration, these small petechial hemorrhages become larger and the clinician is able to recognize the common forms of clinical hemorrhagic disease of the newborn. The common forms of gastrointestinal hemorrhage, bleeding from the cord, and hemorrhages into the skin are more severe forms of the subclinical hemorrhages and usually occur about the third day, when a restoration of the prothrombin concentration has failed to materialize. If the hemorrhage occurs in the sternocleidomastoid muscle, the swelling is not evident until the fourth day or later. If the hemorrhage occurs beneath the periosteum of the skull, the clinical evidence does not appear until the second or third day. Apparently in both these conditions the trauma, although present at birth, escapes detection until the coagulation mechanism becomes distorted. Then slow hemorrhage occurs in these traumatized sites.

On an average, up to a 20 per cent mortality will be encountered in hemorrhagic disease of the newborn. This takes into account only the external hemorrhages, but by the same physiopathology similar hemorrhages can occur into closed cavities, the so-called internal form of hemorrhagic disease of the newborn. It is in the instances of hemorrhage into the peritoneal cavity, adrenal gland, and intracranial cavity that the greatest mortality occurs. About 1 per cent of infants dying during the first week of life will show hemorrhage into the adrenal gland. A slightly greater number will have evidence of peritoneal hemorrhage. It is, however, hemorrhage into the intracranial cavity that has been called the greatest single factor responsible for neonatal death. Cerebral injury, of which intracranial hemorrhage is the greatest factor, accounts for between 35,000 and 57,000 fetal and neonatal deaths each year in the United States.[11] It is true that many of these hemorrhages are due to mechanical lacerations of the vascular bed incident to difficulties in labor. But by far the biggest majority are composed of those in which there appears a slow continuous oozing of blood into the cranial cavity not associated with gross tears in the vessel walls. Fully 25 per cent of these are associated with a generalized bleeding tendency as manifested by coincidental hemorrhages elsewhere in the body. At the Children's Hospital of Washington, D. C. one fourth of the cases of hemorrhagic disease of the newborn which came to autopsy had evidence of intracranial hemorrhage. Of the cases of intracranial hemorrhage admitted to the hospital, the average age of the infant at the time of onset of symptoms was 6 days, or during the period of so-called hypoprothrombinemia.

It is safe to include intracranial hemorrhage as a part of hemorrhagic disease of the newborn when the symptoms appear 48 hours or over after birth. And, because 1 to 2 per cent of all newborn babies experience symptoms of intracranial hemorrhage and the mortality of these is nearly 70 per cent, it is justifiable that all precautionary measures be taken to prevent or at least lower the incidence of this disease. The practice of obstetrics has been improved sufficiently so that hemorrhages due to faulty obstetrics occur only rarely. The precautions must be taken during the prenatal period and the proper therapy given so that at least the infant will be born with, and will maintain, a normal coagulation mechanism. Then, any trauma incident to labor will not result in serious hemorrhages that kill and cripple so many infants.

A winter rise in the clotting times of newborn infants has been noted.[12] A similar increase in the specific death rates from cerebral injury in infants between the ages of 4 and 7 days has been observed. This alone suggests that there exists a probable relation between the physiologic hypoprothrombinemia and intracranial hemorrhage. Already, reports from many clinics indicate that the incidence of intracranial hemorrhage is being lowered by the routine use of vitamin K to mothers before the onset of labor.

The premature infant experiences a marked delay in the restoration of the prothrombin concentration because the hepatic function remains so retarded. Consequently the incidence of intracranial hemorrhage is higher in the premature infant. Vitamin K therapy should be more lasting than in the full-term infant.

ACTION AND ADMINISTRATION OF VITAMIN K

The mode of action of vitamin K is not clearly understood as yet. Prothrombin and vitamin K are similar only in that they are both complex hydrocarbons. Prothrombin, however, contains no quinoid structure. It is assumed that antihemorrhagic substances are absorbed in the intestinal tract and in the form of 1–4 naphthoquinones are absorbed and transported to the liver where they either form or enter into combination with an unknown factor to elaborate prothrombin. An antihypoprothrombinemic factor may be present in certain cells of the liver which combines with the 1–4 naphthoquinone to form prothrombin. In the laboratory the addition of vitamin K to the prothrombin test will not shorten the clotting time. Neither will the administration of prothrombin to a patient with hypoprothrombinemia alter the clotting time of the blood. Yet the administration of vitamin K will give a response.

After the oral administration of vitamin K a low prothrombin concentration will be elevated in 2 to 4 hours provided that no liver damage exists. By 24 hours the level will be returned to normal. If no further interference with the absorption and utilization of vitamin K is present, then the level will remain normal. However, if further biliary obstruction is present, the concentration will decrease gradually during the next 24 hours. This necessitates the need for the administration of vitamin K at least every 24 hours when obstructive jaundice exists.

Should there be no response as indicated by an elevation of the prothrombin level, then liver damage should be investigated. In the case of the newborn infant it is necessary to recall that the hepatic and biliary functions do not reach their maximum efficiency until 4 or 5 days after birth, so that when vitamin K is used in infants it may be necessary to continue therapy for that length of time. In the premature this may even be longer. The rate of elevation of prothrombin following the administration of vitamin K is almost the same whether the drug has been given by mouth or parenterally. This rate of elevation is unchanged whether 4,000 units or 10,000 units are given. The rise can almost always be expected in 2 to 4 hours. The intravenous administration of vitamin K may act 1 to 2 hours sooner.

Preparations of vitamin K may be given in the natural or synthetic forms. The natural occurring vitamin is found in spinach, alfalfa, kale, green carrot leaves, sprouts, tomatoes and in various green vegetables. Putrefied fish meal and hog liver fat are potent sources. It has been impractical to use these foods with any effectiveness in the treatment of hypoprothrombinemic states. Mothers have been fed these foods richly in their diets without any noticeable elimination of the hypoprothrombinemia of their offspring. The concentrated forms of alfalfa can be used in oily solutions, but they are far too expensive. The synthetic forms of 2-methyl-1,4-naphthoquinone are prepared as a white powder and supplied as a compressed tablet or dissolved in maize, peanut or sesame oil. The salts of vitamin K_4 are dispensed in an aqueous solution suitable for parenteral use. The usual forms of the drug are found in the tablet, the capsule, and the ampule. The tablet is administered orally. The oily preparations can be given orally by drop dosage, in capsules, or intramuscularly. Good judgment is necessary in determining by what route the drug is to be given. In all cases of biliary obstruction, it is necessary to give at least 5 grains of bile salts for each 2,000 units of vitamin K administered. A blood transfusion will temporarily supply sufficient prothrombin, but none will be formed, and therefore vitamin K is indicated for the proper synthesis.

The standardization of vitamin K has not as yet become universal. This means that many different units of dosage are to be found. The average preparation of vitamin K contains 2,000 Ansbacher or Thayer-Doisy units. By weight these are usually contained in 1 or 2 milligrams of the synthetic preparation. Nearly all investigators of vitamin K have developed units of standardization of their own. Most of these are suited to laboratory experimentation but are not well adapted for ordinary daily use. All the units are based on the property of vitamin K to lower the clotting time of the blood of vitamin K deficient chicks. The Ansbacher unit is the least amount of vitamin K which will render the blood-clotting time of a 70 to 100 gram vitamin K deficient chick normal in 3 to 6 hours. This is the simplest as well as most accurate unit of measure to date. It is the equivalent of 20 Dam units or 1 Thayer-Doisy unit. Other units are the Almquist unit and the Dann unit. On the whole, there are usually 2,000 Ansbacher units in 1 mg. of 2-methyl-1, 4-naphthoquinone.

TREATMENT OF HYPOPROTHROMBINEMIA WITH VITAMIN K

In the treatment of obstructive jaundice the prothrombin level is used as a basis for the effectiveness of therapy. In the pre- and post-operative care of the patient it is necessary at all times to maintain a level over 60 per cent of normal. This can usually be done by the daily administration of 10,000 to 16,000 units in divided doses every 8 to 12 hours. If given orally, sufficient bile salts should be included.

A 4-day preoperative course of therapy should be instituted. When two successive prothrombin determinations are nearly normal or over 60 per cent, the surgeon can proceed safely. The therapy should continue after operation until the biliary function has been restored. In these cases the clotting time of the blood will prove of little help. Prothrombin determinations are indicated daily. A simple gauge of therapy is to give about 100 or 150 units per pound of expected body weight daily in divided doses. Where emergency surgery is to be performed, it is better to give the drug intravenously in about 4,000 unit doses every 4 or 8 hours. The restoration of bile to the intestinal track is almost as important as the administration of vitamin K.

For the prevention of the physiologic hypoprothrombinemia of the newborn in both premature and full-term infants the best results are obtained by administering vitamin K to the mothers before the onset of labor. This is best accomplished by giving 4,000 units daily by mouth for the week preceding expected delivery. The same can be accomplished by giving 8,000 units for the day or two preceding delivery. In obstetrical hospitals the administration of 2,000 units intramuscularly at the onset of labor will usually protect the infant. Should labor be prolonged, another 2,000 units should be given at the end of 24 hours. If sudden delivery is expected or cesarean section anticipated, the intravenous route for the administration of the aqueous form of vitamin K should be used. Given this way 2,000 units will protect the infant if as little as 2 hours elapse from the time of administration to delivery. However, it is safe then to treat the infant as well.

Should the mother escape therapy, then the infant can be protected by the administration of 2,000 units daily either orally or parentally. This should be given for 2 or 3 days. If the infant is active and being fed artificially, the the drug can be given by mouth in the milk mixture together with a small amount of bile salts. Early breast feeding has been shown to accomplish the same thing.

For the treatment of hemorrhagic disease of the newborn and intracranial hemorrhage of any type a dose of 2,000 units twice daily should be given, preferably by intramuscular or hypodermic route. This is maintained until all signs of the disease have disappeared. In the case of hemorrhagic disease of the newborn the hemorrhage will stop almost immediately. Intracranial hemorrhage should be treated more vigorously by continuing the use of the drug for at least 3 or 4 days. If a prothrombin determination can be performed (and it should be) then the restoration of the prothrombin level will be an indication that sufficient therapy has been given. Whenever a transfusion is indicated, it should be given as an adjunct to the treatment. The administration of whole blood intramuscularly has been of no use in correcting a defective clotting mechanism in hemorrhagic disease of the newborn. Its only value lies in the passage of certain immune bodies to the infant.

In the treatment of other conditions of hypoprothrombinemia a daily dose of 100 to 150 units per pound body weight for adults will be sufficient except in cases of severe liver damage. In children between the ages of 2 and 12 an average dose of 100 units per pound daily will correct the deficiency. Finally, in the infant with the various hypoprothrombinemic deficiencies, such as congenital biliary obstruction and congenital duodenal obstruction, or for any surgery to be performed during the first week of life, a daily dose of 2,000 to 4,000 units by the parenteral route will be adequate. In all instances the cessation of drug therapy is indicated when the prothrombin levels have returned to normal and hemorrhage has stopped. If only potential hemorrhages exist, a normal clotting time and prothrombin clotting time indicate the adequacy of therapy.

The toxic effects of vitamin K have not yet been reported. Hemostasis in vivo will not occur no matter how large a dose of the vitamin is given. In man about 3 mg. per kilogram of body weight orally will produce nausea and vomiting. In laboratory animals, a dose of nearly 10,000 times the therapeutic dose is necessary to produce hemolytic anemia.

At no time should vitamin K be recommended as substitute therapy but rather as an adjunct in the treatment of hypoprothrombinemic conditions with or without active hemorrhage. The response to therapy with vitamin K in the majority of cases in which there is found a state of hypoprothrombinemia will be prompt unless there exists a severe depression of liver function.

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PHYSICAL THERAPY IN THE TREATMENT OF RHEUMATOID ARTHRITIS AND OSTEOARTHRITIS*

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Physical therapy when properly used in the treatment of arthritis, as well as in the treatment of other diseases, should be used only as an adjunct to other forms of treatment such as drug, orthopedic, hygienic, endocrine, dietetic, and other forms of therapy, if one is to expect the best results.

Physical measures in the treatment of the arthritic include various types of heat applications, massage, light therapy, iontophoresis with mecholyl, low voltage currents, colonic irrigations, hydrotherapy and exercise.

Rheumatoid Arthritis

Heat.—Heat in its various forms of applications is usually the most appreciated physical measure to the arthritic patient. But heat also, used in an unintelligent manner, may cause harm. An occasional arthritic patient may get an acute flare-up with the mildest of heat used. In these cases heat should be discontinued or used very cautiously. In cases with acutely inflamed joints, with hot red skin, when local splinting and medication has not controlled the pain, heat should be tried in the form of mild infra-red rays. Infra-red heat from a lamp placed at a proper distance, depending on the wattage of the lamp used, can give some relief from pain and from muscle spasm even in the most acute cases. In acute rheumatoid arthritis the heat from an infra-red lamp is preferred to other forms of heat such as hot water bottles, compresses, etc., because such patients cannot tolerate such weighty and bulky applications on their acutely swollen joints.

In the subacute and chronic stages of rheumatoid arthritis with moderately elevated sedimentation rate, lessened joint pains, and improved appearance of joints, heat is also useful, since it increases vascular circulation, relaxes muscular spasm, and relieves pain. Heat to individual joints in these cases can be applied by the infra-red ray lamps, bakers, hot paraffin applications, warm whirlpool baths, conventional diathermy, and short wave diathermy.

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Any of the enumerated forms of local heating must not be used in too intense a manner, since an exacerbation may be caused, especially in the subacute cases.

Infra-red ray heat is preferred for heating small joints, such as fingers or toes, whereas short wave diathermy should be used for larger joints, such as knees, hips and shoulders, where deeper heating effects are needed.

The short wave diathermy method is mentioned in preference to the long wave or conventional diathermy because short wave diathermy is easier to apply, gives more even through and through heating, and is less likely to cause burns.

The hot paraffin bath is useful in the chronic stage of rheumatoid arthritis when it is desirable to apply heat to involved joints in homes in which electricity is not available. The paraffin is applied in several layers over the involved joint after it is melted in the top portion of a double boiler and allowed to remain on for about 30 minutes. Some patients get more relief from this form of heat than from any other. The paraffin, when removed, leaves the skin smooth and very soft and facilitates the use of massage afterwards.

Hydrotherapy with Mild Fever Therapy.—In cases of subacute or chronic rheumatoid arthritis with multiple joints involved, hydrotherapy in the form of underwater treatment in a large tank has given good results in a number of cases. Mild fever treatments can be given in such a tank. Although fever therapy in rheumatoid arthritis has been tried in many clinics with disappointing results as far as cure of the disease is concerned, most of the reports have indicated that patients have received various degrees of improvement of symptoms and in some cases for such long periods of time that, when symptoms reappeared, patients requested more fever therapy. The disappointment has been that fever therapy does not cure rheumatoid arthritis as it does gonorrheal arthritis.

Dr. Cecil, when he spoke before the George Washington University Medical Society last year, was asked what he thought of fever therapy in rheumatoid arthritis. He answered that he saw a few early cases of rheumatoid arthritis cured with fever therapy. In my own experience I have had patients with chronic rheumatoid arthritis request some form of fever therapy because, they would explain, every time they would develop fever from a cold or other cause, they had been relieved of their arthritic symptoms for some time afterwards.

Knowing that some form of fever therapy is beneficial to cases of subacute or chronic rheumatoid arthritis with multiple joints involved, a technic similar to that employed by Dr. Currence[1] at the Post-Graduate Hospital in New York has been used at Doctors' Hospital in this city. A modified Hubbard tank is used (fig. 1). The tank is so designed that full range of motion of all joints is possible. Patients who are helpless may be lifted into the tank on a stretcher by an overhead pulley.

The temperature of the water, when the patient is placed in the tank, is 100°F. After 5 minutes the temperature of the water is raised to 105°F., so that body temperature is elevated 1°F., and no more, on the first treatment. The temperature of the water is then reduced so as not to allow the body temperature to rise more than 1°F. Several gentle passive movements of the involved joints are made before taking the patient out of the tank.

In some cases in which the joints are not entirely quiescent at the time of treatment, this underwater therapy may cause and can be used intentionally to cause a mild reaction. Patients who get a reaction after treatment must be

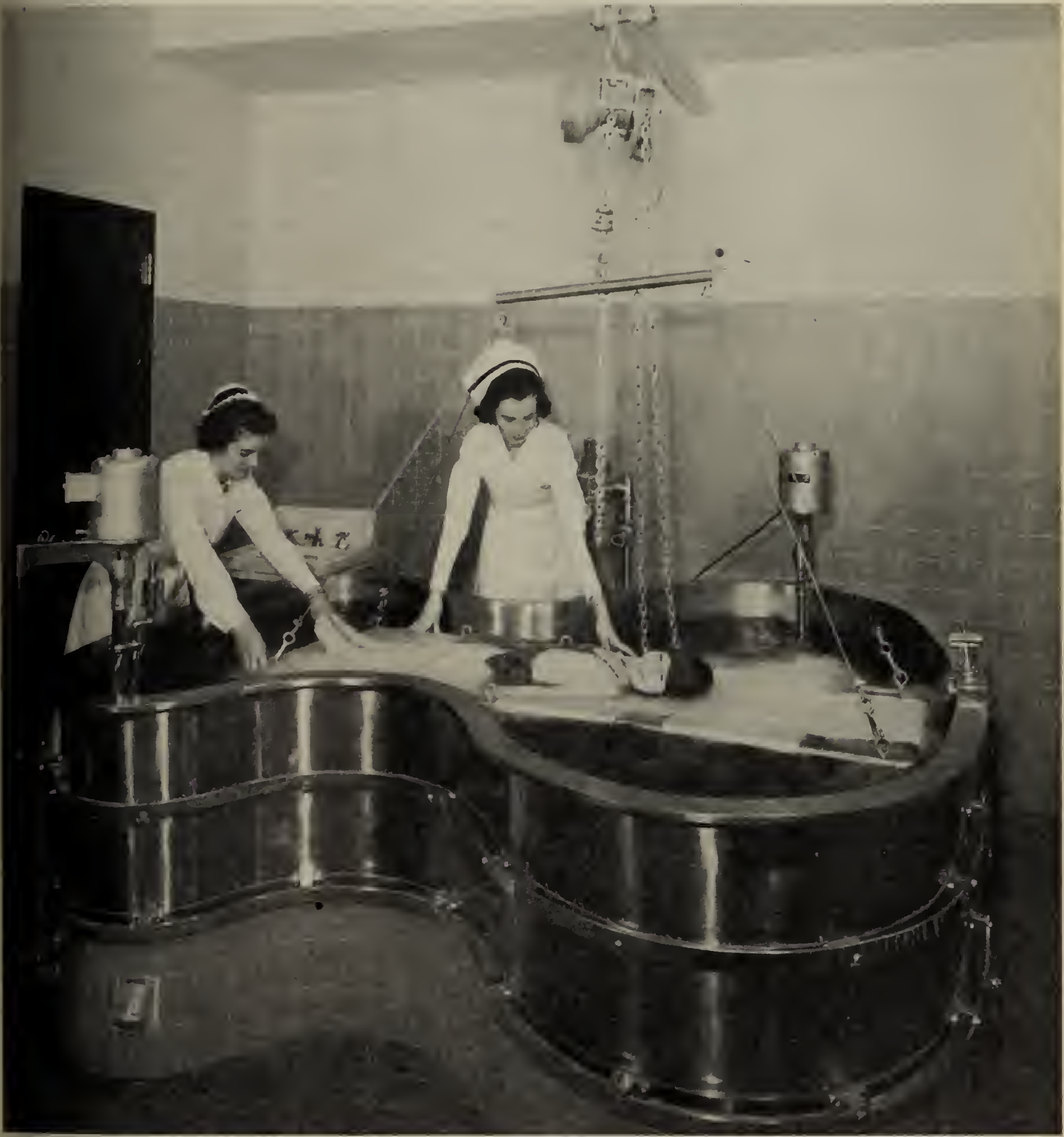

Fig. 1. Modified Hubbard tank used at Doctors' Hospital, Washington, D. C., for mild fever treatments combined with underwater exercise and massage for subacute and chronic rheumatoid arthritis and osteoarthritis.

hospitalized and treatments given in such a way that an acute exacerbation is avoided.

In cases in which a reaction is not desired as part of the therapy, treatments are given thrice weekly with an increase of body temperature by 1°F. on each succeeding treatment until it reaches 102°F. About a dozen treatments are given in each course.

When a reaction does occur after a treatment, the next treatment should be given only 24 hours after all signs of reaction have disappeared. In subsequent treatments the temperature of the water should be below the point which caused a previous reaction.

This mild form of fever therapy in a large tank is much more pleasant for the patient than is the cabinet form of fever therapy. The cabinet should be used when high body temperatures are required as in gonorrheal arthritis. Patients dread the cabinet, whereas they look forward happily, as a rule, to a tank treatment. The buoyancy of the water helps to overcome gravity effects, and patients can begin motion in the water that otherwise would be impossible. Atrophied and weak muscles can be stimulated and recovery hastened. Patients, bedridden for months, can be greatly helped mentally when they find they can move their limbs in the water even though they cannot do this out of the water.

Iontophoresis with Mecholyl Solution.—There have been many varying and confusing reports in the past few years on the value of introducing vasodilating drugs, such as mecholyl, into the tissues over joints in cases of rheumatoid arthritis by means of the galvanic current. Some reports of the use of this drug in this disease have been favorable but other reports have been otherwise.

In my own experience I have found this method of treatment useful only in cases of rheumatoid arthritis in which the small joints are involved, as in the fingers which are also cold and cyanotic. The method is useful when vasodilatation is needed and also when paresthesias are present and the patient cannot tolerate heat because of these paresthesias.

One objection to iontophoresis with mecholyl solution is that the drug is expensive.

Massage.—Massage is a very useful and helpful physical therapy measure that should be used in the subacute and chronic stages of rheumatoid arthritis. It is a lamentable fact that many physicians either are ignorant of the simple technic of massage or think it is degrading to give massage therapy themselves. Massage for these two reasons is quite often not given to these patients at all or is given in a careless manner by some member of the family who has not been properly instructed in the technic of massage nor cautioned about the dangers to avoid. Massage, in order to do some good and especially not to cause harm, must be given either by the physician himself or by a trained physical therapy technician. In exceptional cases a member of the patient's family may be instructed by the physician how to give the massage.

Massage is best given following the use of some form of heat to relax the muscles. Powder should be used if the patient's skin is moist and oil if it is dry.

Massage should not be used when joints are acutely inflamed. When the acute inflammatory process has subsided, only the tissues above and below the joint should be massaged, and not those over the joint itself. The massage should be at first in the form of a light stroking toward the heart. As the case becomes more chronic and there is very little chance of causing an exacerbation, the massage may be of a deeper stroking character and later even of a kneading character. These massage movements cause increased arterial flow and promote venous and lymphatic flow, which decrease swelling in the region of the joint, allow for muscular relaxation, and prevent muscular atrophy and fibrosis.

One caution that must not be overlooked is that massage must not cause pain. A little discomfort not lasting over 2 hours may be unavoidable in some cases. But pain lasting more than 2 hours after massage is an indication that it must be curtailed or stopped for a while.

Exercise.—In rheumatoid arthritis exercise is very important, especially in chronic types. Even in the acute stage one or two gentle passive motions given by the physician daily may prevent adhesions. When the patient is seen attempting to make some motion around the joint himself, then passive exercises may be started. As the condition becomes more chronic and passive exercises do not cause pain, then active assistive and later active exercises may be given. The exercises should be given very slowly, rhythmically, and through the fullest range of motion.

Exercises should not cause pain, swelling nor stiffness for 24 hours afterwards. If this occurs, the exercises should be discontinued for a while or given less intensely.

Heliotherapy.—Cases of rheumatoid arthritis having anemia are benefited by graduated tonic doses of sunlight or ultraviolet light.

Colonic Therapy.—Rheumatoid arthritis patients suffering from chronic intestinal stasis and possible foci of inflammation in the large bowel may be helped by high colonic therapy when properly given.

OSTEOARTHRITIS

Osteoarthritis or hypertrophic or degenerative arthritis is the type that is usually seen in older persons as a result of the wear and tear on the joint structures. It is the type of arthritis that the physical therapy specialist is glad to treat, because these cases, as a rule, can be helped a great deal by physical therapy treatments although they cannot be cured by such therapy. These cases receive so much relief from physical therapy that they readily return for more treatment when and if symptoms return.

Osteoarthritic patients receive great benefits from various forms of heat, massage and exercises when used in conjunction with supports, such as belts, bandages and canes, as needed; when obesity is treated; and when poor posture is corrected among other things.

Heat.—Heat in any form is helpful in most cases of osteoarthritis.

When a knee or an ankle is involved, short wave diathermy followed by immersion in the whirlpool bath with its automatic relaxing massage is most beneficial.

When the lower spine is affected, short wave diathermy followed by massage gives good results.

When a shoulder or hip is affected, short wave diathermy followed by hydromassage and underwater exercise in a large tank should be the treatment of choice.

In cases in which the lower cervical vertebrae are involved with symptoms of referred pain to an arm, infra-red ray heat to the neck followed by mild massage and cervical traction gives relief.

Foam Baths.—Patients with certain types of osteoarthritis associated with hypertension, such as the so-called menopausal arthritis, who cannot stand much general heat, may be given foam baths, which are low temperature sweat baths. These are made by dissolving a saponin extract in hot water and forcing air into the mixture. A heavy foam is formed and patients placed into this get a low temperature sweat bath which is sedative to most patients. This foam acts as an insulator and heats up the joints very gently. Patients usually experience improvement from a series of such baths.

Hydrotherapy.—When multiple joints are involved, mild fever treatments in the large tank already described can be used to advantage. These patients as a rule can stand more hydromassage and underwater exercises than the patients with rheumatoid arthritis.

In conclusion, I want to reëmphasize that physical therapy can be of great benefit, if not curative, to the patient afflicted with rheumatoid arthritis or osteoarthritis, when used properly in conjunction with other forms of medical treatment.

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FURTHER EXPERIENCES WITH MAPHARSEN IN SYPHILIS

REPORT OF A FATALITY

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AND

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About four years ago in a preliminary report[1] we predicted that mapharsen would likely become one of the approved agents in antisyphilitic therapy. At that time our clinical cases numbered 32. Further clinical experience with the compound in more than 300 cases of syphilis covering every stage of the disease tends to confirm our original prediction as well as to permit us to make tentative conclusions regarding its clinical toxicity.

This paper deals essentially with its toxicity in patients who reacted unfavorably to arsphenamines.

Material

Our recent experiences, herein reported, cover its use in 306 cases of syphilis of which 12 per cent were white females, 61 per cent colored females, 4 per cent white males, and 23 per cent colored males. Their ages ranged from 13 to 50 years, with an average of 29.5 years.

All were outpatients, 251 being in a public health clinic,* 34 in a university hospital clinic, and 21 private office cases.

As stated previously, all of these cases reacted unfavorably to one of the arsphenamines, the type of arsphenamine reaction and the distribution being as follows: nausea and vomiting, 42 per cent; nitritoid reaction, 27 per cent; itching and rash, 12 per cent; jaundice, 6.4 per cent; other reactions (sore gums, joint pain, etc.), 12.6 per cent.

Types and Frequencies of Reactions after Mapharsen

In the present series of 306 cases the reactions have been separated into three groups, namely, group A in which no significant systemic reaction occurred; group B, in which the reactions were milder than after the arsphenamines; group C, in which the reactions were as severe or more serious than after the arsphenamines.

Group A (no systemic reactions)	72 per cent
Group B (mild)	14 per cent
Group C (severe)	14 per cent

In our early series[1] we reported as a constant complaint a burning sensation in the arm and shoulder (venalgia, venous spasm) immediately after its injection, even though the drug was given rapidly. In our present series this complaint was so infrequent that no record of its occurrence was deemed necessary. We are at a loss to explain this infrequency except either on the basis of a refinement of (a) technic or (b) drug. The technic employed in the present series was the use of a larger needle (20 gauge), thus enabling us to give the drug more rapidly.

Illustrative Case of Group A

A white male, aged 49, had been inadequately treated with neoarsphenamine over a 20-year period and upon entering the clinic had cardiovascular involvement with aortic regurgitation. When intolerance to neoarsphenamine developed he was placed on bismuth, and the dose of neoarsphenamine was reduced to 0.3 gram. Promptly after the fifth dose of neoarsphenamine in a third course, there appeared cutaneous flushing, choking, coughing, severe cramplike pain in lower back muscles, and incontinence of urine and feces, following which he became unconscious for about 30 minutes. Neoarsphenamine was then replaced by mapharsen in graduated doses (0.01 to 0.06 gram), the patient receiving 10 injections without a significant reaction.

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* Coöperation of Dr. George M. Leiby, Director of the Bureau of Venereal Diseases, District of Columbia Health Department.

ILLUSTRATIVE CASES OF GROUP C

Case 1 in this group is that of a white female, aged 35, who was referred to the clinic because of a severe exfoliative dermatitis following the sixth injection of 0.35 gram of arsphenamine. After 8 weeks in the hospital under treatment the skin cleared. Five years later the patient complained of failing eyesight. Ophthalmologic examination showed obliteration of the right visual field due to a primary optic atrophy. Therapeutic malaria was induced and as a follow-up treatment mapharsen (0.01 gram) was begun. This promptly caused nausea and vomiting, a severe gastroenteritis, and a moderately severe exfoliative dermatitis, the latter subsiding after a 2-week stay in the hospital under appropriate treatment.

Case 2 is one of a white female aged 33 having early latent syphilis, who had received 16 bismuth injections. Following the first arsphenamine injection (0.35 gram) a fleeting rash appeared. Mapharsen was then ordered, and inadvertently the 0.04 gram dose was given instead of the usual initial dose of 0.01 gram, with the result that there was reactivation of the dermatitis. She was then placed on vitamin C and after 2 months mapharsen in graduate dosage (0.01 to 0.04) was employed without any significant reaction.

Case 3 is that of a colored female aged 20 having early syphilis who was concurrently receiving bismuth and arsphenamine. Following the second injection of arsphenamine (0.35 gram) she became nauseated and vomited. Mapharsen was then tried (0.01 gram) and she reacted as after arsphenamine; she also had severe diarrhea.

Case 4 was one ending fatally with aplastic anemia. The reports of fatalities following mapharsen are so infrequent that the report of this case will be given more fully than the others, particularly since it is one of the few cases of aplastic anemia reported following mapharsen.

This case is that of a white male, aged 36, diagnosed in January, 1932 as a case of early latent syphilis. The family history was negative for blood disease. The patient had had the usual childhood diseases without complications. He had had malaria 4 times between the ages of 16 to 18. In 1920 while serving in the tropics with the U. S. Marine Corps, he was hospitalized for the treatment of furunculosis, returning for duty after several days. Soon after this he developed a penile sore which was self-treated locally.*

In 1924 he made application for service on the District of Columbia police force, and had a blood test which was presumably negative, since he was accepted. In 1931 a routine Wassermann reaction was repeatedly positive. During the course of the next 2 years he received fairly regular treatment, consisting of 36 injections of neoarsphenamine and 18 injections of bismuth. After many of the injections he had chills, nausea and vomiting, and toward the last developed an itching rash. In 1934 the blood Wassermann test was still positive, and the patient received 6 injections of silver arsphenamine and 6 injections of mercury, the Wassermann remaining positive. In 1936, 6 more injections of neoarsphenamine and 6 of bismuth were given. Nitritoid reactions became quite severe following the injections, and treatment was discontinued. There was a period of 2 years without treatment. During May, 1937 he received 6 injections of mapharsen. In August he had a severe sore throat, lasting 2 weeks, but no skin rash. He had no bruising. A series of concurrent bismuth and mapharsen injections was begun in November, 1938. The patient at every request refused to allow a lumbar puncture.

The fifth injection of mapharsen and bismuth was given on January 4, 1939. Five days later the patient reported for treatment, when slight bruising was noted on the arm. He explained that this was caused from playing with a parrot. Further inspection revealed bruises and petechiae of the lower legs, which he ascribed to "booting" his dog. No treatment was administered, but a blood study was requested. Blood examination on January 9, 1939 in Dr. Oscar B. Hunter's laboratory revealed "well defined thrombocytopenia with the presence of a definite agranulocytic phase" (aplastic anemia). The red blood cells numbered 4,950,000; the white blood cells, 3,600; the hemoglobin was 79 per cent; the bleeding time was 10 minutes plus, and the blood platelets numbered 25,000. The patient that same evening was informed of the seriousness of his condition and was strongly urged to enter a hospital for blood transfusions and supportive measures. This he refused to do at the time for business reasons, and he maintained that he was not sick. He did, however, receive daily intravenous injections of vitamin C, intramuscular injections of pentnucleotide, and calcium gluconate by mouth. His temperature remained normal, and he claimed that he felt well, although there was periodic bleeding from the mouth, some oozing from the gums, and the appearance of black stools. After 6 days a member of the family telephoned that the patient was not well, was grouchy, and requested advice. Hospitalization for blood transfusions was urged, and later it was said that he had decided to go to the Johns Hopkins Hospital Clinic for a check-up.

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* We are indebted to Surgeon General Ross T. McIntire, U. S. Navy, for the early history of this case.

The following is a condensation of the reports obtained through the kindness of Dr. W. T. Longcope, Chief of the Department of Medicine, Johns Hopkins Hospital.

Physical examination on admission showed the following: temperature, 99.8°F.; pulse, 80; respiration, 20; blood pressure, 104/60. Examination revealed a well developed, muscular man. His mental status did not suggest paresis. The main findings were large green ecchymotic spots over the legs and a purpuric rash about the ankles and to a lesser degree over the entire body. There was a slight pallor of the mucous membranes and bleeding from the nose, the gums, and the rectum. The heart and lungs were negative. The spleen was not palpable.

Laboratory examinations were as follows: The Wassermann was positive. Erythrocytes numbered 3,700,000; the hemoglobin was 80 per cent; and the white blood cells numbered 1,700. The differential count revealed polymorphonuclear neutrophiles, 4 per cent; juvenile polymorphonuclear neutrophiles, 4 per cent; myelocytes, 7 per cent; lymphocytes, 84 per cent; and monocytes, 1 per cent. The bleeding time was 47 minutes. The blood platelets numbered 10,000. The urine examination revealed no sugar and 1 plus albumin. The guaiac test of the stool was positive for blood.

The patient failed rapidly. The temperature gradually rose, reaching 107°F. on the fourth day and remaining at about 106°F. Two blood transfusions (third and fourth days) of 550 c.c. each produced slight benefit. The second transfusion caused a chill with rise of the temperature to 107°F. Finally fluids were then given subcutaneously.

The blood platelet count remained between 10,000 and 25,000. The white blood count fell to 720; the hemoglobin remained between 70 and 80 per cent. Reticulocytes were never more than 1 per cent. The anemia, granulocytopenia, etc., were progressive.

The patient gradually became weaker, disoriented, and progressively drowsy. He died on January 21, 1939, on the sixth hospital day.

Pathologic notations were as follows: The heart showed no changes in the musculature. The aorta suggested a little irregularity in the media, but this was so slight that it seemed quite impossible from the sections to make a diagnosis of syphilitic aortitis. The tissues of the pharynx, tonsil, etc., were practically normal. The lung showed no alteration in the section. The alveoli were in part collapsed, but there was no exudate. The liver was practically normal. The spleen showed a moderate or early stage of acute splenic tumor. The kidneys were normal. The most striking finding was the extreme hypoplasia of the bone marrow in the femur, vertebra and rib. Instead of a densely cellular bone marrow there was a delicate thin tissue in which there were a few cells and no megalokaryocytes. There were scattered small hemorrhages. There was a well defined ulcer in the rectum near its lower end where the surrounding tissue was edematous and hemorrhagic, with a relatively small number of mononuclear wandering cells.

To us the significant features of our fatal case are: (a) the first series of mapharsen injections was well tolerated, there being no clinical aftereffects; (b) the second series of mapharsen injections was concurrent with bismuth treatment, and it is possible that the bismuth may have played a part in the production of the anemia; (c) there was the relatively long lapse of 9 days between the diagnosis of the blood condition and the first blood transfusion.

Relative to our second comment above we are inclined to believe that bismuth may have played a part in the production of the blood complication, since it is well established that bismuth used concurrently with mapharsen not only produces a more rapid healing of the early cutaneous lesions but also affects and maintains an early complete reversal of the serologic reactions more frequently than without bismuth.[2] The case of Kirkham and Perlmutter[3] was one of aplastic anemia in which bismuth and mapharsen had been used concurrently.

Astrachan,[4] discussing the paper by Rein and Wise,[2] believes that "no trivalent arsenical should be used again in cases in which there is a history of blood dyscrasia," thus attributing this blood complication to the valency of the arsenic.

We believe, however, that the toxicity of mapharsen is not so much a question of the valency of its arsenic, but its association with the benzol ring. We are led to believe this since bone marrow depression is a rarity after the use of Fowler's solution, the only case with which we are familiar being that of Wheelihan[5] reported in 1928.

To date only 3 previous fatal cases of blood dyscrasias following mapharsen have been reported in the literature, namely, 1 by Rein and Wise,[2] 1 by Rangiah,[6] and 1 by Kirkham and Perlmutter.[3]

Of the other reported deaths after mapharsen, that of Cole and Palmer[7] was one of a chronic alcohol addict who developed an acute nephrosis for which their pathologist was unable to define the cause. It is of interest to note that this case had received both bismuth and mapharsen. A second fatality reported by Rangiah[6] was stated to be due to encephalitis following mapharsen.

SUMMARY

We have presented herewith a clinical study of the tolerance to mapharsen in a series of 306 cases of syphilis, all of whom were "reactors" to one of the arsphenamines.

Seventy-two per cent of the series showed no significant reaction to mapharsen, the remainder being reactors to both the arsphenamines and mapharsen. Of the reactors to mapharsen, 14 per cent reacted less severely, the remainder (14 per cent) reacted either as severely or more severely than after the arsphenamines.

In the group of more severe reactions is that of a death from aplastic anemia in a case of early latent syphilis, which occurred 17 days after the fifth injection of a second series of mapharsen injections given concurrently with bismuth. The total dose of mapharsen was 0.62 gram.

The use of mapharsen in reactors is of extreme value for securing the coöperation of the patient. Such coöperation is very important from both an economic and public health standpoint, particularly in those patients who are in need of an arsenical to control infectiousness.

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The value of influenza A vaccine. Evidence that vaccination against influenza, although it does not prevent the disease, may reduce the incidence and favorably modify its severity, is presented by GILBERT DALLDORF, M.D., ELINOR WHITNEY, AND ARTHUR RUSKIN, M.D., Valhalla, N. Y., in *The Journal of the American Medical Association* for June 7, 1941.

The three authors investigated the value of influenza A vaccine, developed by F. L. Horsfall Jr., M.D., and E. H. Lennette, M.D., in 1940, by vaccinating 415 of 826 hospital employees. The remaining number of employees were used as controls. The vaccine was administered on Dec. 11 and 12, 1940, and during the latter part of the following month a small epidemic of influenza occurred among the employees. Of the 77 cases of the disease that occurred in the outbreak, 32 developed in the vaccinated group and 45 in the control group of employees.

"No differences between the two groups were observed other than that fever was of shorter duration among the vaccinated persons, that pneumonitis [inflammation of the lung tissue] of a degree which could be detected by roentgen [X-ray] examination occurred only among those who had not been vaccinated and that physical signs of pneumonia were twice as common among the controls," the authors say.

"Against this failure to prevent influenza must be considered the evidence that the duration of the disease and pulmonary [lung] involvement seem to have been reduced by vaccination. . . ."

Pneumonia is contagious. Additional evidence that pneumonia is a contagious disease and that all patients with it should be strictly isolated, even during convalescence, is presented in *The Journal of the American Medical Association* for June 7, 1941 by SYDNEY S. GELLIS, M.D., AND A. GRAEME MITCHELL, M.D.,† Cincinnati.

"Nine instances of cross infection with type I pneumococcus occurred in November and December of 1939 during a period of two weeks in the pediatric [diseases of children] service of the Cincinnati General Hospital," the two physicians say. "All the children, with one exception, were between the ages of 2 and 3 years."

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† Dr. Mitchell died June 1, 1941.

EDITORIALS

SELECTIVE SERVICE AND THE NATION'S HEALTH

We have Colonel Leonard G. Rowntree's word for it that "improvement in national health will be the greatest contribution to come out of this whole [Selective Service] effort." Colonel Rowntree, who is Chief of the Medical Division of the Selective Service System, recently participated in a nation-wide radio discussion of "Defense and America's Health," a University of Chicago Round Table broadcast. In the course of the discussion, he expressed views which are of direct concern to every practicing physician. The following are excerpts from his remarks:

"We are rejecting between 40 and 45 per cent of the men coming up for physical examination, between the local board examiners and the [Army] induction board examiners. That is a rather high percentage."

"More than the medical profession is concerned. I think what we can do is really to hold a mirror before the public and let them see for themselves what the health of the nation is, and let them determine what is to be done about it."

"Right now Selective Service is holding the mirror, and it can give the facts and indicate the need. On this should be built a new public health for the nation."

"A great many are seeing a doctor for the first time and receive their first physical examination."

"It is preventive medicine at which we ought to aim."

"We face a tremendous problem in public health. The difficulty is to know how to proceed. . . . I have a plan which I am suggesting. . . . In this plan we are going to try to have people understand what the standards are, what is required of them, and put themselves into a position where they are acceptable for . . . service. This we are going to call *pre*-habilitation—'*pre*' not '*re*,' because we want it to be the opening wedge in a great public health program."

In regard to pre-habilitation, Colonel Rowntree made it clear that physical examinations of registrants will be made by their physicians and dentists. He said, "If they can't pay for it they are advised to go to the public health agency which can best fit their needs." An article describing the pre-habilitation program appeared in the April 19 issue of the *Journal of the American Medical Association.*

What significance have these statements for the medical profession? First of all, it has thrown a new light on the health situation in this country. To meet it is not the task of any one group. As Colonel Rowntree stated, ". . . now we come to the great problem of the coördination for great public health. We must extend this service. We must have a distribution of these problems to the various fields of effort. We must bring into it the American Medical Association, the American Dental Association, the United States Public Health Service, this new committee of Mr. McNutt [Health and Medical Committee of the Federal Security Agency], the Red Cross, the National Youth Administration—in other words, we must get together for better public health, and each and every organization must do its part."

Our Society will be in accord with this proposal. The first step to be taken by our organization is to develop a long range public health program in which individual physicians will play an important role. Emphasis should be placed on the practice of preventive medicine by private practitioners, a more ambitious effort in lay education, and coöperation with existing health agencies. If properly developed and conducted, there can be no doubt that such a program will have the support of the entire profession.

SOCIETY FILES APPEAL

On May 19, 1941, Justice James M. Proctor filed a memorandum reading as follows:

"All pending motions in various forms looking to the granting of a new trial are severally denied. The clerk will enter the proper orders."

In those two sentences the Court disposed of all pending motions in the case of the United States Government versus the American Medical Association, et al. The next step was a formality except for the amount of the fines, which Justice Proctor on May 29 determined should be $2,500 for the American Medical Association and $1,500 for the Medical Society of the District of Columbia.

Counsel for the defense filed a notice of appeal on June 2. As several time-consuming legal procedures are necessary, arguments will not be heard by the Court of Appeals until late in the fall.

In the light of what has transpired, the recent decision of the United States Circuit Court of Appeals in the General Motors case is of particular interest. In a lengthy opinion the Court affirmed the verdict of the jury, acquitting all individual defendants and finding the four corporate defendants guilty. Among other things the Court said:

"The jury convicted the appellants, but acquitted the individual defendants. It is well settled that corporations may violate the Sherman law by forming a conspiracy in restraint of interstate commerce, but it is fundamental that they could do this only through individual agents. As their last ground of appeal the appellants assert that the verdict was inconsistent, and contend that the Court should have granted a new trial.

"We cannot understand how the jury could have acquitted all of the individual defendants. As a matter of logic, reconciliation between the verdict of guilt and verdict of acquittal is impossible. Perhaps an explanation may be constructed on the jury charge that 'You have a right in considering this case to find all the defendants guilty, to find them all not guilty. You have a right to find part of them guilty and part of them not guilty.'

"There is authority holding that a corporation may be convicted of unlawful conspiracy despite the acquittal of persons through whom it could have conspired and without whom the success of the conspiracy would have been impossible (U. S. vs. Austin-Bagley Corp., 31 F. [2] 229). It is arguable that the individuals acquitted in that case did not exhaust the list of agents who had been indicted, and that the acquitted agents were not necessary to the existence of the conspiracy even though they were indispensable to the execution of the conspiracy. However, the language of the opinion does not appear to turn the case on the argument just advanced, nor do we think the case should so be turned.

"The question on review should not be whether the verdict against the corporations is consistent with the acquittal of the individuals. Rather it should be whether the conviction is consistent with the evidence. In other words, we believe that the acquittal of the officers and agents, even if they had been the only persons through whom the corporations could have acted, should not operate, without more, to set aside the verdict against the corporations."

This opinion undoubtedly had a direct bearing upon the legal proceedings involving the American Medical Association, et al., although numerous arguments might be advanced to contradict certain portions of it. At any rate, organized medicine is taking its case to the higher courts and it will be many months before the final decision will be rendered.

PATIENTS OF THE FUTURE

In common with other people, physicians look anxiously to the future. What changes will there be and what adjustments will have to be made? How will medical practice be conducted ten, or even five years hence? What effect will changes have upon the physician's social status?

These and many other thoughts intrude themselves on the minds of physicians. Of course, there is no answer to most of these questions because of the unpredictable elements involved. However, there are known factors which physicians should take into account.

Attention is called in a recent publication issued by the Metropolitan Life Insurance Company* to the fact that the average age of the population in this country is increasing and that "there is every indication that this trend will continue into the future." At the turn of the century, 3,080,000 persons, or 4.1 per cent of the population of this country, were 65 years of age or over. There are now 9,000,000 or 6.8 per cent. Should the present trend continue, the number of persons 65 years of age or over will have increased to 14 per cent by 1980, or approximately 22,000,000.

"As a result of this aging process, emphasis in medical practice is already changing and is bound to change even more strikingly in the future. Geriatrics, as a special branch of medicine, should approach pediatrics in importance. Studies of the aging process are coming increasingly to the fore, and give encouraging signs of the awareness by the medical profession of the demands that will develop as a result of recent population trends.

"It is well that these problems of old age are being given greater attention by the medical profession. More detailed study shows how overwhelming a sector of the disease picture will be constituted by the conditions which particularly affect older people. Under mortality conditions prevailing in 1938, half of the babies would eventually succumb to degenerative disease of the circulatory system and kidneys. The chances of dying from this group of diseases rise steadily through life so that, at age 60, the chances exceed 60 per cent. Old people with cardiovascular diseases will, therefore, make up an increasingly large part of the medical clientele in the future."

There are, of course, a number of other diseases of old age which will become more predominant, for example, pneumonia and other respiratory diseases, diabetes, cancer and mental disturbances incidental to advancing years.

"It is evident, therefore, that the aging of the population will have a marked influence on medical economics. As the proportion of older persons doubles in the course of the next generation, an increasing number of physicians and of hospital facilities will be required. A regional redistribution of physicians may be in order, in view of the increasing numbers of old people who locate in the South. As the proportion of younger persons declines, and there is increasing mastery over the acute diseases, physicians will have more time and inclination to devote to the chronic diseases. The total volume of illness will, however, increase because of the longer periods of disability which characterize these diseases. The changing situation will bring up new and vital problems of medical organization and personnel. It will be the better part of wisdom to study these problems carefully and make suitable provision for them well in advance."

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* *Statistical Bulletin*, April 1941.

Here, then, is a factor in the future of medical practice of which the medical profession can be fairly certain. It is not too early to give more intensive study to the degenerative diseases which mark middle and old age. There is an economic aspect, the solution of which will not be readily found. Obviously, a large number of these older patients will be in straitened financial circumstances. How the medical care they need is to be financed is a matter which should also be given serious thought by the profession. Only through well laid plans can serious difficulties in this situation be avoided. It is to be hoped that medical organizations throughout the country will be foresighted in regard to this problem so that they will fulfill their obligations adequately.

PERTINENT PARAGRAPHS

May Meetings

Except for a scientific program, the organization year, in so far as Society meetings are concerned, came to a close with the Annual Business Meeting which was held on May 7. However, there has been no let-up in activity. Committees responsible for the 1941 ANNUAL SCIENTIFIC ASSEMBLY got under way with their plans for what promises to be the finest meeting the Society has sponsored.

The following meetings were held during May:

May 7	Annual Business Meeting of Society
May 9	Grievance Committee
May 14	Scientific Meeting of Society
May 15	Subcommittee on Scientific Exhibits, Annual Scientific Assembly
	Section on Pediatrics
May 16	Subcommittee on Finance, A. S. A.
May 19	Committee on Medical Resources
May 21	Section on Ophthalmology and Otolaryngology
May 26	Executive Board
May 27	Subcommittee on Attendance and Publicity, A. S. A.

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Annual Reports

Copies of the Report of Activities for 1940–1941 are still available to members of the Society. This 50-page report covers all activities during the organization year. Facts regarding the Society's program are set forth briefly and interestingly. Requests for copies should be addressed to the Secretary of the Society.

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Graduates of Foreign Schools

Steps have been taken in various states in regard to graduates of foreign medical schools. The Council of the Illinois State Medical Society adopted a resolution on January 5, 1941, defining the Society's position, as follows:

"(1) That recognition for medical licensure in Illinois, whether after examination or otherwise and irrespective of the question of citizenship, of graduates of foreign medical schools be strictly in accordance with the method of recognition that is applied with respect to the graduates of medical schools located in the United States, any other method of recognition being not only illegal but constituting the grossest type of discrimination in favor of foreign graduates.

"(2) That in the future recognition be accorded no graduate of a foreign medical school who applies for license to practice medicine in the State of Illinois unless there is in the possession of the Department evidence of the quality of instruction imparted by the school of graduation of equal credibility with the evidence required of approved domestic schools and that the identical standard be applied in approving all medical schools, whether such schools be located in the United States or in foreign countries."

The Society's resolution was accepted by the Director of the Department of Registration and Education for the State of Illinois and all applications of graduates of foreign medical schools which do not meet requirements have been denied since February 21, 1941.

There are no legal restrictions on the licensing of such graduates in the District of Columbia.

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Perennial Legislation

Proponents of antivivisection legislation are, to say the least, persistent. At frequent intervals bills are introduced in the Congress which would prohibit scientific experiments upon animals. This year, H.R. 3871, "A bill to prohibit experiments upon living dogs in the District of Columbia and providing a penalty thereof," was introduced by Representative Burdick of North Dakota. It is similar to previous legislation of this kind.

The Committee on Public Policy and the Executive Board recommended to the Society that this bill be opposed and, if necessary, that representatives of the Society make an appearance before a committee of Congress if hearings were held. This action was approved by the Society.

The bill was considered by the House District Subcommittee on May 1. Although only a day's notice was given, the Committee on Public Policy acted promptly. Dr. Frederick C. Fishback, former Chairman of the Committee, who had previously made appearances in connection with a similar bill, rendered valuable assistance. He organized the physicians who made an appearance and it is quite certain that this legislation will not receive serious consideration.

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Physicians Warned against Typhus Fever

Upon the request of Dr. George C. Ruhland, Health Officer of the District of Columbia, attention of members of the Medical Society is called to the problem of typhus fever. Dr. Ruhland says, "It is desired that the assistance of the local doctors be enlisted in the control campaign, more especially from the viewpoint of the diagnosis of typhus in human cases."

These cases, he states, "may be confused with any of the exanthema and particularly with measles in adults. Mild cases of endemic typhus may not be recognized as such, and this is particularly so in a community where the disease has not heretofore prevailed.

"Because of the frequent mildness of endemic typhus, physicians should keep in mind the possibility of this disease. In doubtful cases the Department will assist in diagnosis when called upon by attending physicians."

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An Important Function

Activities of the Medical Society about which members hear the least are often vitally important. The Board of Censors has a difficult and responsible task. Whenever the Society votes upon applicants for membership, it has before it the recommendation of the Board which, by the way, is responsible only to the Society.

The Board has taken its responsibilities seriously. It not only examines all applications carefully, but interviews the applicants before coming to a decision. If the Board was less diligent, physicians would be elected to membership who are not qualified or of good reputation. For it is not possible for members of the Society to vote intelligently upon applicants who are unknown to them. They must rely upon the thoroughness and good judgment of the members of the Board.

An expression of appreciation to the Board of Censors is therefore in order.

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Rat Extermination Campaign Endorsed

A resolution adopted by the Federation of Citizens' Associations relating to the extermination of rats was presented to the Society on May 7. The campaign had been endorsed by the Society's Subcommittee on Sanitation, the Committee on Public Health, and the Executive Board. It was pointed out in the resolution that in many parts of the city rats had become a menace to health. Eradication, it was urged, is primarily the citizen's responsibility. Each individual householder was called upon to use every means available to eliminate rats from his premises.

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National Nutrition Conference

On May 10, 1941, Federal Security Administrator Paul V. McNutt announced that 700 leaders in the fields of medicine and public health, social work, nursing, home economics and nutrition, agriculture, education, labor, industry, government and community organization had been invited to attend the National Nutrition Conference for Defense which President Roosevelt had called in Washington, May 26, 27 and 28.

"The purposes of this Conference," Mr. McNutt said, "are to report on the present state of human nutrition in the United States and to outline the effects of inadequate nutrition on the health, efficiency and morale of our people. The Conference will make recommendations to the President for an immediate program of action.

"In this time of national emergency, the health of all the people is one of our gravest responsibilities. Only a nation of healthy people can be strong. And people are healthy only if they are adequately fed. How well fed is America? Not well enough, not nearly well enough for our own security."

The sections and their chairmen are: Research and National Nutrition Problems—Dr. E. V. McCollum, Johns Hopkins University, *Chairman*; Economic Policy and Social Responsibility as Related to Nutrition—Miss Lucy Gilette of the Community Service Society of New York City and Dr. Hazel Kirk of the University of Chicago, *Cochairmen*; Public Health and Medical Aspects of Nutrition (with special reference to needs of women and children)—Dr. Russel M. Wilder of the Mayo Clinic and Dr. Richard M. Smith of the American Academy of Pediatrics, *Cochairmen*; Nutrition for Defense Workers in Industry—Dr. Frank G. Boudreau of the Milbank Fund, *Chairman*; Methods of General Education in Nutrition—Miss Dorothy Williams of Cornell University and Dr. Mildred Weigley Wood, Director of Home Economics Education in the Phoenix, Arizona Public Schools, *Cochairmen*; Professional Education in Nutrition—Dr. Lydia J. Roberts of the University of Chicago and Dr. John H. Musser of Tulane University, *Cochairmen*; Distribution and Processing of Foods (with reference to consumer problems)—Dr. L. V. Burton, Editor of *Food Industries*, and Dr. Hector Lazo of the Coöperative Food Distributors of America, *Cochairmen*; Community Planning for Nutrition—Mr. Howard F. McCloskey of the American Youth Commission and Dr. H. C. Ramsower of Ohio State University, *Cochairmen*.

In commenting on this Conference, Surgeon General Thomas Parran said:

"I regard this meeting as of first importance. Every state and every community in this country has citizens who do not get the food they need for proper health and vigor. This Conference must tell us how to translate our knowledge of nutrition into everyday reality for all the people. Forty per cent of the American population are not properly fed. The ill-health results mean a slowing down of industrial production, a danger to military strength, and a lowering of the morale of millions.

"America must speed up human power as well as mechanical production. Both England and Germany have learned this lesson. So must we. I hope that this Conference will make recommendations to solve nutrition problems at national, state, and community levels as an essential part of defense and as a part of a continuing national health and welfare program."

Medical organizations have long stressed the importance of proper nutrition as a safeguard to the public health. It has believed, and still believes, that this very important factor has not previously been given the attention by our Government that it deserved.

1941 Annual Scientific Assembly

The 1941 ANNUAL SCIENTIFIC ASSEMBLY is only four months away. Some committees are well advanced with their plans, among them the Subcommittee on Program, which announces that the program this year will be devoted to CURRENT PROBLEMS IN GENERAL MEDICINE. Among the subjects to be discussed are emergencies in general medicine, preventive procedures in the various specialties, the use of newer drugs, treatment of psychoneuroses, and recent developments in military medicine. Outstanding physicians from all parts of the country will participate in the program.

Other features of the ASSEMBLY will be announced from month to month. Remember the dates, September 30, October 1 and 2.

PROCEEDINGS OF THE ANNUAL BUSINESS MEETING

About four hundred members were on hand for the Annual Business Meeting of the Medical Society of the District of Columbia, which was held in the Society's auditorium on the evening of May 7. Attendance was the largest in several years. The meeting opened with a brief statement by Dr. Daniel L. Borden, President of the Society. Dr. Borden said:

"Our Society has passed through a critical year. The National Defense Program has been a challenge to American Medicine. I am pleased to report that your Society has fulfilled its responsibility to the Nation. The response of our membership has been most commendable.

"The Government's Anti-trust trial involving our Society has been heard. The case is still before the courts and it may be many months before the final outcome will be known.

"Numerous innovations have marked the progress of our Society during the past year. The 1940 ANNUAL SCIENTIFIC ASSEMBLY was held in the fall for the first time in its history. One of the unique features was the Doctors' Hobby Show, for which much credit is due the Woman's Auxiliary. The Doctors' Glee Club and the Tennis and Golf Tournaments were organized. MEDICAL BUREAU, which began operation on December 2, 1940, has been one of the outstanding achievements of the past year. Although the BUREAU has already proven its worth, its future possibilities for the general good of the Society and its members cannot be overestimated. The BUREAU is now self-supporting.

"The plan of having three business meetings a year has been successful. The addition of a speaker and a buffet supper on business nights has proved advantageous.

"The Chairman of the Committee on Arrangements and his co-workers deserve the highest commendation for the success of PRESIDENT'S NIGHT. I wish to mention in particular the contribution of the Woman's Auxiliary which helped so much to make it a delightful occasion.

* * *

"I would be remiss in my final report if I did not call your attention to the splendid work that your Secretary has done during my term of office. As Secretary to the Society, he has attended all committee meetings and has coordinated the work of the Society so that it now functions as a unit. Always ready to serve, day or night, endowed with a rare sense of good judgment, tempered with a keen insight into the future, he has and will justify your trust.

"The future of our Society is assured. Under the leadership of Dr. Henry R. Schreiber, the Society can look forward to a successful year."

ANNUAL REPORT OF THE CHAIRMAN OF THE EXECUTIVE BOARD

Attention was called to the provisions of the Constitution and By-laws relating to the Executive Board. The Society, it was reported, had been kept informed at regular business meetings in regard to the Board's activities and all matters of policy had been submitted for action of the membership.

Matters of most importance to the Medical Society at this time were: (a) the final outcome of the recent trial, (b) the probability of national health legislation, and (c) the role of medicine in the National Defense Program. There followed detailed discussion of these points.

Members were urged to read the REPORT OF ACTIVITIES FOR 1940–1941, a 50-page review of the Society's progress in the past year, a copy of which was provided each member of the Society present.

The Society was warned that "powerful groups in this country are clamoring for fundamental changes in medical practice." The Chairman quoted from an address given by him in 1935 as retiring President of the Hippocrates-Galen Society. At that time he said:

"It is . . . my opinion that the leaders of every medical group, national, state, county or city, have imposed upon them the important duty of exhorting their membership to become more 'medico-economically minded' because of the important place that American medicine holds in our national industrial, social and economic order, and because of the possible plight of the American physician as this period of reconstruction progresses.

* * *

"The Report of the Committee on the Costs of Medical Care has shown very conclusively that many influential groups and individuals are concerned with the future of American Medicine. . . . There is an ever growing tendency to remove health work from the private physician to centralized bureaus. . . .

"Unless a well organized, well ordered, and intensified effort is made by organized medicine, the probabilities are that the gradual process of the socialization of medicine will continue . . ."

Reference was made to the activities of the Medical Advisory Council to National Headquarters of the Selective Service System, of which the Chairman is a member. Special mention was made of the pre-habilitation program recently approved by the Council.

ANNUAL REPORT OF THE SECRETARY

The Secretary reported that the Society's membership had steadily increased in the last five years and submitted the following figures:

	1937	1938	1939	1940	1941
Active	740	798	820	848	843
Life	51	52	55	51	60
Associate	127	149	164	190	208
Honorary	7	7	7	7	7
Total	925	997	1,046	1,096	1,118

Up to May 1, 1941, 662 Active Members and 177 Associate Members had paid their 1941 dues.

Meetings and conferences in which the Secretary participated during the year 1940–41 totalled 172. Minutes of all meetings of the Society, its boards and committees have been recorded by him.

Assistance was given by the Secretary to the Committee on Postgraduate Education in connection with two postgraduate courses sponsored during the spring of 1941. One course was devoted to OFFICE SURGICAL PROCEDURES and the other to PSYCHONEUROSES IN GENERAL PRACTICE.

The Secretary addressed the senior students of Georgetown University School of Medicine and resident physicians of Children's Hospital on the subject, "Physicians' Records."

Considerable time was devoted by the Secretary to his duties as Secretary of the Committee on Arrangements for the 1940 ANNUAL SCIENTIFIC ASSEMBLY and its subcommittees. The 1940 ASSEMBLY was the most ambitious and successful meeting undertaken by the Society. Plans for the 1941 ASSEMBLY are well under way.

In the summer of 1940, the Secretary, upon instruction of the Executive Board, conferred with the Surgeons General of the Army and Navy regarding medical preparedness plans. These officials were informed that the Medical Society of the District of Columbia wished to coöperate in every way possible in the National Defense Program. When the Selective Service Act became a law, the Secretary acted as liaison officer between the Society's Committee on Medical Resources and District Selective Service officials. Arrangements were made by him with six local hospitals for use of their facilities in connection with the examination of registrants. Coöperation of the local medical schools, which provided students to assist examining physicians, was also obtained.

Recently the Secretary was appointed a member of the Medical Advisory Council to National Headquarters of the Selective Service System.

Although the current Congress has been almost entirely occupied with national defense problems, an extraordinary number of medical bills have been introduced in both the House and the Senate. The Secretary obtained copies of these bills for each member of the Society's Committee on Public Policy. District bills relating in any way to medicine received prompt and careful attention.

MEDICAL BUREAU, the Society's 24-hour telephone secretarial service, was organized under the direction of the Secretary, who arranged for the installation of special telephone equipment, developed the necessary records, and employed and trained operators.

All details in connection with Group Hospitalization, Inc. were handled in the Society's office. Physician subscribers had increased from 251 on September 1, 1939, when the Society was first accepted as a participating group, to 351 on March 1, 1941, when the books of Group Hospitalization were last opened to the Medical Society's membership.

In connection with the MEDICAL ANNALS OF THE DISTRICT OF COLUMBIA, of which the Secretary is Managing Editor, there has been an increase of 16 per cent in advertising over the previous year.

The Secretary, as a representative of the Committee on Public Relations, has prepared news releases and conferred with reporters on many matters pertaining to the medical profession.

Although health broadcasts are prepared by the Committee on Radio Education, the Society's office has responded to 96 requests for copies of them.

ELECTION OF OFFICERS

Except for the offices of President-elect and Delegate to the American Medical Association, nominees were unopposed. Dr. F. X. McGovern and Dr. A. Magruder MacDonald were candidates for President-elect. Dr. Henry C. Macatee and Dr. R. Arthur Hooe were nominees for Delegate to the American Medical Association. As a result of the balloting, the following were elected for the year 1941–1942:

President-elect	A. Magruder MacDonald
First Vice President	J. Lawn Thompson, Jr.
Second Vice President	Grace G. Purse
Member of the Executive Board	Daniel L. Borden
Member of the Board of Censors	Allen S. Cross
Delegate to the American Medical Association	Henry C. Macatee
Alternate Delegate to the American Medical Association	Arthur C. Christie

PRESIDENT'S
PAGE

FURL THE SAILS

For the past twelve months it has been my privilege to serve the Medical Society of the District of Columbia as its President. Now the time has come to drop anchor and to furl the sails.

I have enjoyed my term of office. In many ways I will miss the responsibility that has been mine for it has carried with it a real sense of trust.

Upon assuming office, one big hurdle loomed up ahead which gave me great concern. The writing of a monthly President's Page was something new to me. But I have liked this channel of approach to our membership. It has given me an opportunity to express personal opinions about many of our problems and by so doing to get just a little closer to some of our members. Also it has given an outlet for many of my nautical ideas, occasionally a chance to present my views through the medium of my camera, and lastly, it has brought the artistic capabilities of Dr. Frank Speidel to the Society's attention. His cartoons have added much to the attractiveness of the Page.

Although our Society has passed through a critical year, it has weathered the storms and we are now ready to turn the command over to a new set of officers and committees. To the new administration I offer my best wishes for the continued success of our Society, and to Dr. Henry R. Schreiber I hand the helm of our ship with a sense of great confidence that he, in keeping with his past record, will steer a steady course.

Let go the anchor!

Daniel LeRay Borden

MEDICAL PREPAREDNESS SECTION

It is not necessary for me to say to you: America expects every physician to do his duty. Each one, with the assistance of his medical society, must decide what his duty is, whether to continue in his civilian practice, in his teaching position, in a public health capacity, or to offer his services to the army or navy. Those of you who may be called or elect to join the colors will do so at great personal and financial sacrifice. This sacrifice, however, will not be without recompense. As the years pass, the knowledge that you did your part in the fight for the rights and freedom of your brother man will bring much satisfaction to you. And to each of you may I extend the wish that, after a long and successful career, in the sunset of your life you may cherish in your memory the sense of duty well done in this critical period of our nation's history.—ALBERT G. LOVE, Brigadier General, Medical Department, United States Army.

The following physicians have been recommended by the Committee on Medical Resources for appointment to Selective Service boards in the District of Columbia:

Examining Physicians:

District No. 3	Philip A. Caulfield
District No. 4	Darrell C. Crain
District No. 5	Maurice Protas
District No. 7	Alec A. Preece
District No. 11	Richard E. Dunkley
District No. 18	Edward M. Pickford

Medical Advisory Board (A):

Urologist	Horatio N. Dorman

Medical Advisory Board (C):

Urologist	John M. Orem
Dentist	William F. Lady, replacing Edmund T. Lane

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The Executive Board, at its meeting May 26, approved the recommendation of the Committee on Medical Resources that its name be changed to Committee on Military Affairs, since this would be more indicative of the committee's activities.

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The following members of the Medical Society have been called to military service during the past month: Joseph F. Belair, Frank T. Cawley, Roger Cohen, Lynwood Heiges, Gerald A. Hopkins, Henry A. Hornthal, J. Lawn Thompson, Jr. and Joseph J. Wallace.

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After giving further consideration to the reorganization of groups of physicians examining registrants in local hospitals, Dr. F. X. McGovern, Chairman of the Committee on Medical Resources, and Colonel A. Clagett Gray, State Medical Officer for the District of Columbia, announced it had been agreed that each group should make its own arrangements. This course was decided upon because conditions varied in each hospital. The first groups to reorganize were those at Garfield and Georgetown Hospitals. For some time there have been two units at Garfield serving on alternate nights. At Georgetown Hospital a somewhat similar arrangement has been placed in operation. The procedure adopted at the latter institution is set forth in a communication to examining physicians, which reads in part as follows:

"Group 1, by and large, consists of those men who have had the longest term of service as examiners. Most of these men have been examining regularly for the past six months. It is, therefore, our intention that Group 2 assume the responsibility for the examinations at Georgetown beginning May 15, 1941. On that night Dr. Henry R. Schreiber, Dr. Bernard L. Hardin and Dr. Worth B. Daniels will be present to assist and instruct the newer examiners in the methods of handling the examinations. On May 19, Dr. B. W. Leonard, Dr. Joseph J. Bateman and Dr. Cyrus W. Culver will be present to perform the same service. Thereafter the conduct of the examinations will be turned over entirely to the new group. They are to assume the responsibility and carry on for a four-month period, namely, until September 15, 1941. At that time Group 1 will reassume the responsibility of running the Georgetown station and carry on for a four-month period, to be followed again by Group 2."

The following memorandum was issued by General Lewis B. Hershey, Deputy Director of Selective Service, on March 25:

"This Headquarters has learned that the War Department is in need of medical officers and desires to commission duly qualified physicians and surgeons in the Medical Corps Reserve for immediate active duty of one year.

"Recently in several cases, physicians and surgeons have been put in Class 1-A and inducted into service although they might have served to better advantage both to the Army and to themselves in the capacity of medical officers.

"To assist the War Department in its procurement program, it is desired that you present this situation to the attention of the local boards in your state. It is suggested that they communicate with registrants who are licensed physicians and surgeons and encourage them to apply to the Corps Area Surgeon for reserve commissions in the Medical Corps. It is particularly desirable to avoid inducting men who can qualify for such commissions and be made available for immediate active duty.

"This applies only to graduates of approved medical schools who are licensed or eligible to be licensed to practice medicine in the state in which they live."

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Another memorandum of interest to physicians was directed by National Headquarters of the Selective Service System to State Directors on May 2, 1941. It reads as follows:

> A report from the Office of Production Management to the Deputy Director of Selective Service conclusively demonstrates that the medical profession constitutes an activity essential to the national health, safety and interest, and that a serious interruption or delay therein is likely to impede the national defense program. The substance of this report is broken down in detail for the information of local Selective Service agencies as follows:
>
> ### I. MEDICAL DOCTORS
>
> A. *Supply.*—At present it is estimated that there are approximately 155,000 practicing physicians in the country.
>
> B. *Demand.*—The national defense program as now outlined will require 7,900 physicians for the Army, 900 for the Navy, 100 for the Public Health Service and 100 for the Veterans Administration, a total of 9,000 medical doctors, in addition to present staffs. This represents a reduction of at least 5 per cent in the number of doctors available for service in civilian life. Such a reduction imposes an added burden on physicians serving the general public. The expanding defense program greatly increases industrial hazards to workers and will increase the demand for medical care in the field of industrial medicine. The rapid growth of communities throughout the country through the establishment of new defense industries presents serious health problems, all of which mean that the demand for medical services to the general public will increase as the national defense program expands, in addition to the 5 per cent withdrawal of physicians from private life to the armed forces under the present program of the armed forces. It has been estimated that the increased demand will be approximately 10 per cent.
>
> C. *Shortage.*—From the above it is apparent that there is an over-all and increasing national shortage of medical doctors for service both to the armed forces and to the civilian population. Further, the supply is not distributed in accordance with the population so that consequently there are present shortages in some local board areas while on the other hand there are present surpluses in other local board areas. However, any such surpluses may be substantially reduced and even wiped out entirely by reason of the requirements of the armed forces and the increased civilian requirements as above indicated. As set forth in the Memorandum to all State Directors (I-42) of March 25, 1941, the War Department has stated that it is now in need of medical officers and desires to commission duly qualified physicians and surgeons in the Medical Corps Reserve for immediate active duty of one year. Where a medical doctor, independent of Selective Service, accepts such a commission, he is in Class I-C thus reducing the demands of the Army by one.
>
> D. *Policy and Procedure.*—The local board has the problem of deciding whether or not an individual doctor is so necessary to a community that he should be deferred from training and service under the provisions of Paragraphs 350-353 of the Regulations. This problem should be approached with a clear appreciation of the over-all national shortage. If the local board determines that he should not be deferred, it should call his attention to the provisions of the above-mentioned memorandum (I-42) and encourage him to apply to the Corps Area Commander for commission in the Medical Corps Reserve. If he has been finally classified in I-A and does not take advantage of this opportunity for commission he will be inducted when his order number is reached.
>
> ### II. MEDICAL STUDENTS
>
> A. *Supply.*—Currently there are approximately 5,000 medical graduates entering the profession each year. This represents the only source of supply for future requirements necessary to supplement the present force of the medical profession and to replace those leaving the profession. When it is realized that approximately 27,000 of the nation's physicians are 65 years of age or older, and that 3,800 are lost to the profession each year, this supply is not large.
>
> B. *Demand.*—Experience shows that not more than 60 to 65 per cent of medical graduates are physically and otherwise qualified for military service. Consequently, there is an acute demand for physically qualified medical graduates by the Army to serve as physicians. The civilian needs require

approximately 3,800 graduated medical students each year to replace the physicians who are lost to the profession through normal attrition. The demand for these replacements is identical with the demand for doctors, since they constitute the only source of supply.

C. *Shortage.*—There are no replacements for medical students who are withdrawn from school. Consequently if the supply of medical students who are to be graduated into the medical profession is reduced through their induction to serve in a non-professional capacity, an increasing reduction of physicians available for military service as well as an aggravation of the increasing overall national shortage will result.

D. *Policy and Procedure.*—It is of paramount importance that the supply be not only maintained but encouraged to grow, and that no student or intern who gives reasonable promise of becoming an acceptable medical doctor be called to military service before attaining that status. Local boards should remember that a deferment is not an exemption and that the obligation and liability for military service remains upon its expiration. The procedure governing deferment of medical students is that prescribed by the Memorandum to all State Directors (I-62) of April 22, 1941. (See also Bulletin No. 10 of the American Council on Education attached thereto and Night Letter to all State Directors, April 30, 1941.)

III. INTERNS

A. *Supply, Demand, Shortage.*—The internship is a period of hospital experience which follows the formal medical college course. It is considered an essential part of a medical education. The supply, demand and shortage of interns is identical with that set forth in II, above, with regard to Medical Students.

B. *Policy and Procedure.*—As interns are in the process of taking additional training, the same policy and procedure prescribed with respect to medical students should be followed. However, we are informed that under the present War Department policy, interns who meet Army physical standards can be commissioned in the Medical Reserve Corps, and if so commissioned, will not be called to active duty during the first year of internship. Consequently, even though a local board places an intern in Class I-A by reason of determining that he can be spared from the community, such intern may, by becoming a member of the Medical Reserve Corps, complete his first year's internship.

ALUMNI ASSOCIATION SEEKS AID IN LOCATING GRADUATES

The Medical Society of the District of Columbia has been requested by the George Washington University General Alumni Association to assist in locating "lost" medical school graduates. Information regarding the present address or whereabouts of any physician listed below, or in the event of death, the approximate date, should be sent to Mr. Lester A. Smith, Secretary of the Alumni Association. Mr. Smith's telephone number is National 5200.

Name of Physician	*Last Known Address*	*Year of Graduation*
Harry Adler	889 Linden Blvd., Brooklyn, N. Y.	1932
Edwin W. Ashford		1890
Harold Bedell	Gallinger Municipal Hospital, Washington, D. C.	1937
Leonard S. Berman	Conemaugh Valley Memorial Hospital, Johnstown, Penna.	1936
Jacob M. Brownstein	367 Marcy Avenue, Brooklyn, N. Y.	1927
Bernard Campus	959 Jackson Avenue, New York, N. Y.	1931
Charles W. Cannon		1888
Anthony T. Caruso	Providence Hospital, Washington, D. C.	1935
Jesse F. Casey	220 University Avenue, Lexington, Ky.	1931
Morris Catzva		1916
John M. Chapman		1907
William W. Christmas	301 W. 108th Street, New York, N. Y.	1905
Winfield S. Clarke		1900
Henry C. Corbett	Arlington, Virginia	1883
Charles S. Cowie	U. S. Veterans Hospital No. 42, Perry Point, Maryland	1891
Henry K. Craig	1622 P Street, N. W., Washington, D. C.	1895
John M. Cunningham		1894
Morris M. Dick	685 Academy Street, New York, N. Y.	1932
Ray F. Farley	3628 12th Street, N. E., Washington, D. C.	1933
Harry K. Fortgang	139 East 94th Street, New York, N. Y.	1931
Lt. Col. Charles L. Foster	Box 152, Covington, La.	1902
Col. Sanford W. French	Ft. Washington, Maryland	1909
John Y. Gibson	1213 West Grand Avenue, Chicago, Illinois	1879
Isidore Gross	1936 75th Street, Brooklyn, N. Y.	1933
Revere R. Gurley		1884
Arthur M. Hamilton		1888
Nathaniel W. Hankemaye		1907
Gena R. Harding	2101 Connecticut Avenue, Washington, D. C.	1889

Name of Physician	*Last Known Address*	*Year of Graduation*
Avediss B. Herald		1898
Katherine M. Herring		1910
Ross J. Hillegass		1905
Harry K. Hodes	Lakeland, Florida	1899
Lt. Col. Jarrett M. Huddleston	Fort Sam Houston, Texas	1916
Henry M. Jewett		1902
J. R. Johnson		1895
Sidney L. Johnson	Huntington State Hospital, Huntington, W. Va.	1894
Benjamin L. Jones	5643 Northumberland Avenue, Pittsburgh, Penna.	1930
Nathan Karshmer	144 Somerset Street, New Brunswick, N. J.	1924
Frank P. Magennis		1895
Fujio Mitsuyoshi		1911
William F. Patten	1746 K Street, N. W., Washington, D. C.	1904
Isadore Pinsky		1926
Arthur C. Rauterberg	510 5th Street, Washington, D. C.	1895
Willis P. Rogers		1905
Louis Rosenbaum	300 East 167th Street, New York, N. Y.	1927
Samuel Sacks	1000 N Street, Washington, D. C.	1907
Edward W. Sawyer		1905
Charles J. Sheridan	715 19th Street, Washington, D. C.	1899
Vincent J. Stachniewicz	27 Woodlawn Avenue, Jersey City, N. J.	1916
Frederick C. Weber	Fleischman Company, Mott Avenue & 158th Street, New York, N. Y.	1908
Leonard J. Wyeth	Hotel Northern, Los Angeles, Calif.	1900

WOMAN'S AUXILIARY NOTES

The Woman's Auxiliary wishes to announce the new slate of officers elected at their annual meeting on May 14 to take office July 1, 1941:

President	Mrs. Caryl Burbank
First Vice President	Mrs. Edward M. Pickford
Second Vice President	Mrs. Francis X. McGovern
Recording Secretary	Mrs. J. Ogle Warfield
Corresponding Secretary	Mrs. Jesse T. Mann
Treasurer	Mrs. Richard B. Castell

At this meeting, the Auxiliary greeted the President of the Medical Society of the District of Columbia, Dr. Daniel L. Borden, who addressed a few remarks to the members. He was warm in his praise of and appreciation to the Woman's Auxiliary for the help and coöperation of its members, notably on two occasions, the Hobby Show last fall and the President's Night program the last of April. He voiced several interesting ideas and suggestions for future service on the part of the Auxiliary.

On the following Wednesday the last event on the program of the Auxiliary took place in the form of a luncheon at the Normandy Farms Teahouse, when 125 members and guests came together for a delightful and purely social affair. The officers of the nearby Alexandria, Virginia, Auxiliary were guests at this luncheon.

In Cleveland, Ohio, in this first week of June, the National Woman's Auxiliary is meeting for its annual convention in conjunction with the meeting of the American Medical Association. The Woman's Auxiliary of the District of Columbia is proud to announce that it is represented there by two delegates from its membership, Mrs. Prentiss Willson and Mrs. William J. B. Orr.

NEWS AND PERSONALS

The Ninety-second Annual Session of the American Medical Association, held in Cleveland, June 2 to 6, was attended by a great many Washington physicians, a number of whom participated in the program.

Dr. William Thornwall Davis addressed the Section on Ophthalmology on "Superficial Punctate Parenchymatous Keratitis." **Dr. Hayden Kirby-Smith** was co-author of a paper entitled, "A Comparative Study of Necrobiosis Lipoidica and Granuloma Annulare," which was read before the Section on Dermatology and Syphilology. In a panel discussion on "Neurosurgical Treatment of Certain Abnormal States," sponsored by the Section on Nervous and Mental Diseases, **Dr. Walter Freeman** was one of the participants.

The Society was well represented in the Scientific Exhibit. Following are the names of physicians who sponsored exhibits and the subjects presented:

Major Robert A. Bier and Colonel L. G. Rowntree, Medical Division, National Headquarters, Selective Service System—"The Medical Function—National Selective Service System."

Drs. Walter Freeman and James W. Watts—"Surgical Treatment of Mental Disorders."

Dr. Thomas M. Peery—"Incomplete Rupture of the Aorta: A Cause of Cardiac Pain and of Aortic Insufficiency."

Two Society members showed motion picture films: "Agitated Depression Treated by Prefrontal Lobotomy" by **Dr. Freeman**; "Resection of Polyp by Sigmoidotomy" by **Dr. Garnet W. Ault.**

Dr. Wallace M. Yater was elected Chairman of the Section on Pharmacology and Therapeutics. This section will hereafter be known as the Section on Experimental Medicine and Therapeutics.

Members of the Society who discussed papers were **Drs. Jacob Kotz, Grafton Tyler Brown and William P. Herbst.**

A number of national organizations scheduled their annual meetings to immediately precede the A.M.A. Convention. **The American Heart Association** met May 30 and 31. **Drs. J. Ross Veal and Hugh H. Hussey** presented a paper before the association on "The Pathologic Physiology of the Venous Circulation in Acute Thrombophlebitis and the Postthrombotic Syndrome." **Dr. Wallace M. Yater** presided as Chairman of the Section for the Study of the Peripheral Circulation.

Participating in the program of the **American Therapeutic Society,** which held its sessions on May 30 and 31, was **Dr. Oscar B. Hunter,** who read a paper on "Intoxication Tests for Drinking Drivers and Pedestrians." **Dr. Hunter** was reëlected Secretary of the society.

The following physicians participated in a Tumor Seminar conducted by Dr. Howard T. Karsner of Cleveland before the **American Society of Clinical Pathologists: Drs. Tomas Cajigas, V. J. Dardinski, Oscar B. Hunter and E. Clarence Rice. Dr. Hunter** also read a paper on "A New Concept of the Practice of Clinical Pathology in Hospitals."

Upon the request of **Mr. H. P. Safford, Chairman of the Committee on Alcohol and Narcotics of the Public Schools,** 27 physicians, representing the **Speakers' Bureau,** gave 40 talks on the effects of alcohol and habit-forming drugs to students in the secondary schools in the District of Columbia during the months of April and May. The following is a schedule of the talks given:

April 21	Eastern High School, Dr. W. C. Stirling
	Roosevelt High School, Dr. H. J. Davis
April 22	Eastern High School, Dr. F. A. J. Geier
	McKinley High School, Dr. W. R. Morris
April 23	Macfarland Junior High School, Dr. L. B. Norris
	Macfarland Junior High School, Dr. J. M. Baber
April 24	Roosevelt High School, Dr. W. W. Eldridge
April 25	McKinley High School, Dr. W. R. Morris
April 28	Western High School, Dr. W. C. Stirling
	Dennison Vocational School, Dr. W. J. Cusack
	Wilson Teachers College, Dr. W. H. Beard
April 29	Anacostia Junior-Senior High School, Dr. I. P. Frohman
	Stuart Junior High School, Dr. D. C. Crain
	Stuart Junior High School, Dr. J. R. Young
April 30	Central High School, Dr. F. L. Williman
	Anacostia Junior-Senior High School, Dr. J. C. Sullivan
	Anacostia Junior-Senior High School, Dr. R. K. Hollingsworth
	Langley Junior High School, Dr. J. K. Cromer
	Langley Junior High School, Dr. M. M. Nicholson
May 1	Wilson High School, Dr. R. A. Keilty
May 2	Abbot Vocational School, Dr. J. M. Baber
	Wilson High School, Dr. F. A. J. Geier
May 5	Powell Junior High School, Dr. L. B. Norris
	Jefferson Junior High School, Dr. A. J. Mourot
May 6	Deal Junior High School, Dr. W. J. Cusack
	Deal Junior High School, Dr. P. S. Constantinople
	Paul Junior High School, Dr. W. B. Walters
	Paul Junior High School, Dr. L. B. Norris
May 7	Eliot Junior High School, Dr. Leon Seley
	Powell Junior High School, Dr. H. H. Diamond
May 8	Hine Junior High School, Dr. D. C. Crain
	Hine Junior High School, Dr. J. R. Young
	Powell Junior High School, Dr. Z. M. Lebensohn
May 9	Taft Junior High School, Dr. A. F. Heath
	Taft Junior High School, Dr. Samuel Diener
May 13	Gordon Junior High School, Dr. L. A. Klein
	Chamberlain Vocational School, Dr. W. W. Eldridge
May 14	Eliot Junior High School, Dr. Leon Seley
May 27	Coolidge High School, Dr. W. R. Morris
June 2	Gordon Junior High School, Dr. F. L. Williman

The Forty-fourth Annual Dinner of the Washington Medical and Surgical Society was held at the Mayflower Hotel on May 10. More than 200 members and guests were on hand. Dr. Thomas C. Thompson, Vice President of the Society, presided. Guests at the banquet were Dr. Carlos Brin, Ambassador of Panama, Dr. A. Moll, Secretary of the Sanitary Commission of the Pan American Union, Father David Vincent McCauley, S.J., Dean of the Georgetown University School of Medicine, Dr. Walter A. Bloedorn, Dean of the George Washington University School of Medicine, and Theodore Wiprud, Secretary of the Medical Society of the District of Columbia.

The guest speaker was Honorable Samuel Wilder King, Delegate from Hawaii, who spoke on the subject, "Hawaii and the National Defense." Mr. King emphasized the adequacy of defense preparations in the United States' largest possession in the Pacific.

The Frank E. Gibson Award, consisting of $25 in cash and a certificate, which is given annually for the best scientific paper presented at a meeting of the society during the year, was presented to **Dr. Walter O. Teichman.**

The George Washington University Medical Society, at their annual business meeting on May 17, elected the following officers for the coming year.

Dr. William Earl Clark, *President-elect;* Dr. W. M. Ballinger, *First Vice President;* Dr. Esther Nathanson, *Second Vice President;* Dr. O. B. Hunter, *Secretary-Treasurer.*

Dr. Howard P. Kane took office as president for 1941–42.

The Jacobi Society elected the following officers at their last meeting of the season, May 19:

Dr. Samuel Dessoff, *President;* Dr. Leon Gordon, *Vice President;* Dr. Sander Lachman, *Secretary;* Dr. Joel Novick, *Treasurer.*

The Women's Medical Society held a meeting on May 24 at the Chestnut Lodge Sanitarium. Drs. Edna Dyar and Frieda Fromm-Reichmann acted as hostesses. Dr. Lillian Malone read a paper entitled, "Psychiatry from Superstition to Science." Officers elected for the coming year were as follows:

Dr. Helen Gladys Kain, *President;* Dr. Agnes McNutt, *Vice President;* Dr. Inez Wilber, *Recording Secretary;* Dr Caroline Jackson, *Corresponding Secretary;* Dr. Elizabeth Parker, *Treasurer.*

The Class of 1941 of Georgetown University School of Medicine presented a $10,000 life insurance policy to the School, which upon maturity will be known as the David V. McCauley Endowment Fund. Premiums on policies taken out on several members will be paid collectively by the 73 students who comprise the graduating class. A medal and a symbol of the endowment fund were presented to Dean McCauley by the class president, Wallace H. Mathews, at a dinner held at the Shoreham Hotel, May 6.

Washington Sanitarium dedicated a new addition May 12 which will be known as the Lisner Memorial in honor of its donor, Mrs. Laura Hartmann Lisner. Addresses were made by Dr. R. A. Hare, Medical Director of the Sanitarium and by Dr. H. C. Byrd, President of the University of Maryland.

The District of Columbia Tuberculosis Association announced on May 16 the results of its **Early Diagnosis Campaign.** Eight household workers from among 355 who were given chest X-ray examinations were found to have active infections. Examinations were entirely voluntary. Some were examined by their own physicians and others, where it was necessary, were referred to clinics. An intensive educational program was carried on. Talks were given before church groups, clubs and other civic organizations.

A series of radio programs were broadcast over local radio stations in connection with the campaign. Following is a list of the speakers and the topics presented.

April 21	"A Major Health Problem—Tuberculosis" Dr. J. Winthrop Peabody, President, District of Columbia Tuberculosis Association
April 23	"Preventing Tuberculosis" Dr. Melvin P. Isaminger, Director, Bureau of Public Health Instruction, District Health Department
April 25	Interview on Tuberculosis Dr. Jack Derzavis, Staff member, District Health Department
April 26	"Chest X-Ray for Household Workers" Mr. Harald H. Lund, Executive Secretary, District of Columbia Tuberculosis Association
April 30	"Tuberculosis—A Real Health Problem" Dr. Paul B. Cornely, Associate Professor of Preventive Medicine and Public Health, Howard University
May 1	"Tuberculosis in Infants" Dr. Thomas A. Williston, Attending Physician for Tuberculosis, Freedmen's Hospital
May 2	"Partnership in Health" Dr. W. Ross Morris, Chairman, Subcommittee on Tuberculosis, Medical Society of the District of Columbia
May 3	"What Is Meant by Early Diagnosis of Tuberculosis?" Dr. Howard M. Payne, Chief Physician for Tuberculosis, Freedmen's Hospital
May 6	"Finding Tuberculosis Early" Dr. Harry S. Bernton, Member, Board of Directors, District of Columbia Tuberculosis Association

May 6	"Tuberculosis and the Aged" Dr. Thomas A. Williston, Attending Physician for Tuberculosis, Freedmen's Hospital
May 7	"Medical Advances in Tuberculosis Control" Dr. Wilder P. Montgomery, Attending Physician, Tuberculosis Annex, Freedmen's Hospital
May 8	"Finding Tuberculosis Early" Dr. M. Walker Allen, Chief Resident Physician, Tuberculosis Annex, Freedmen's Hospital
May 9	"The Tuberculosis Control Program" Dr. A. Barklie Coulter, Director, Bureau for Tuberculosis, District Health Department

In discussing the campaign, Dr. J. Winthrop Peabody, President of the Association, said: "The fact that the persons examined were household workers and were for the most part in a particularly susceptible age group accounts for the high rate of 1.97 cases for every 100 persons examined. The usual rate in mass X-rays where many age groups and many occupations are represented is one case per 100 examined. The project just completed therefore bears out the contention of many health authorities that persons employed in household work are in age and income groups where tuberculosis is present to an unusually high degree."

The campaign was endorsed by the Medical Society of the District of Columbia, the Medical-Chirurgical Society and the District Health Department. Hospitals and clinics which participated in the campaign were Doctors, Emergency, Freedmen's, Garfield, George Washington University, Georgetown University, Providence and two Health Department chest clinics.

The District Social Hygiene Society held its annual dinner meeting May 23 in Barker Hall of the Y.W.C.A. Dr. Ira S. Wile of New York, the guest speaker, spoke on the subject, "Boy Meets Girl—And Then." Dr. Henry H. Hazen, President of the Society, discussed pending social legislation. Mr. Ray H. Everett, Executive Secretary, urged the need for disseminating information regarding venereal diseases.

Drs. George R. Creswell, Russell J. Fields, William P. Herbst and Winfred Overholser were among those elected to the Society's Board of Directors.

The Third Annual Conference of Negro Tuberculosis Workers was held at Howard University, June 9 and 10. Several members of the Medical Society participated in the program. Dr. David Davis read a paper entitled, "The Role of Bronchoscopy in Pulmonary Tuberculosis." Drs. A. B. Coulter and Charles P. Cake participated in a seminar on "The Problems of Tuberculosis in General Practice." Dr. Coulter discussed this subject from the viewpoint of a health officer and Dr. Cake, who is Chief Resident at Gallinger Hospital, from the viewpoint of a municipal hospital official.

Dr. Joseph S. Wall, Chief of the Medical staff, **and Dr. Walter Rath,** Chief of the Dental staff, of **Children's Hospital** participated in a program May 21 which marked the opening of the Hospital's newly equipped dental clinic for preschool children. The Woman's Auxiliary to the District Dental Society sponsored the original clinic, established for elementary school children, and largely through their efforts this clinic has been extended to include children of junior high school age and now children of preschool age.

Dr. Thomas E. Mattingly, a member of the Board of Directors of the Washington Self-Help Exchange, Inc., **Mr. Ross Garrett,** Administrator of Health Security Administration, and **Mrs. Harlan Fiske Stone,** also a member of the Board of Directors of the Exchange and President of the Instructive Visiting Nurse Society, participated in a broadcast over station WMAL on May 13. Dr. Mattingly and Mr. Garrett discussed at length the contributions of the Medical Society and the Health Security Administration to the Exchange's health program.

Drs. Antoine Schneider and Roger S. Cohen were reappointed to the District Commission on Mental Health, May 19, by Chief Justice Alfred A. Wheat of the U. S. District Court.

The American Psychiatric Association announced May 10 the election of **Dr. Elmer Klein** to fellowship, and the admission to its membership of **Drs. Alexander Halperin, Miriam Frances Dunn and Andrew Browne Evans.**

Dr. Emmett H. Markwood was elected president of the Mount Pleasant Citizens' Association on May 10.

Dr. Joseph S. Wall discussed institutional activities of Children's Hospital at the weekly meeting of the Rotary Club of Washington, May 14.

Dr. Winfred Overholser addressed the opening session of a two-day Conference on Mental Health in Later Maturity, held on May 23 and 24, and sponsored by the Unit on Gerontology, Division of Chemotherapy of the National Institute of Health.

Dr. G. Victor Simpson was elected president of the Canadian Club of Washington, May 24. This club is made up of former Canadians living in the city.

The District Commissioners appointed **Dr. Hugh O. House** a member of the Board of Police and Fire Surgeons on May 14. He will succeed Dr. James H. Earley, who died recently.

Dr. William P. Herbst addressed the District Pharmaceutical Association, May 21, on the effects of sulfanilic acid on cicatricial lesions and urethral strictures.

CORRESPONDENCE

Washington, D. C., May 28, 1941

Mr. Theodore Wiprud, Secretary
The Medical Society of the District of Columbia
Washington, D. C.

My Dear Mr. Wiprud:

May I take this opportunity to personally express to you my very genuine thanks for your ready and efficient coöperation in scheduling the recent series of lectures on alcohol and narcotics in the secondary schools in Divisions 1–9.

I am aware of the very real burden involved, particularly at a time when there were so many other urgent demands upon your time and I am deeply grateful for your unfailing, courteous and effective coöperation.

In behalf of the entire committee I am also asking that you convey to the Society in general and particularly to those doctors who gave so generously of their time, our earnest gratitude. A willingness to render this public service is typical of the high ethics of their profession and deserves the heartfelt thanks of the public school system.

Very sincerely yours,
H. P. Safford, *Chairman*
Committee on Alcohol and Narcotics
of the Public Schools

CAT.

WILLIAM CLARENCE BRAISTED, M.D., F.A.C.S., F.R.C.S.

(1864–1941)

Rear Admiral William Clarence Braisted, United States Navy (retired), former Surgeon General of the Navy, died of bronchopneumonia at his home, 620 South High Street, West Chester, Pennsylvania, January 14, 1941.

Dr. Braisted was born October 9, 1864, in Toledo, Ohio. He graduated from the University of Michigan with the degree of Bachelor of Philosophy in 1883, and from the College of Physicians and Surgeons, Columbia University, with the degree of Doctor of Medicine in 1886. Other degrees later conferred upon him were Doctor of Laws from the University of Michigan, 1917, the same degree from Jefferson Medical College, Philadelphia, 1918, and Doctor of Science from Northwestern University, 1918.

After practicing medicine in Detroit for two years, he began his service with the Navy in 1890. During a long and distinguished career he held, as he once stated, "almost every appointment in this service at one time or other." He was appointed Assistant Surgeon in 1893. During the Russo-Japanese War he represented the Medical Department in Japan. Upon returning to the United States he was promoted successively to Assistant Chief, Bureau of Medicine and Surgery, Surgeon and Medical Inspector, and finally Surgeon General and Chief, Bureau of Medicine and Surgery, with rank of Rear Admiral, which office he held from 1914 until he retired in 1920 after thirty years' service in the Navy.

For his service in the Navy during the World War the President awarded him the Distinguished Service Medal. He was also decorated by the Emperor of Japan, and received the Order of Bolivar from the President of Venezuela. Honorary Fellowship was conferred upon him by the American College of Surgeons and by the Royal College of Surgeons, Edinburgh.

Along with his naval career Dr. Braisted was active in many medical and allied organizations. Among the high offices he held were President of the Association of Military Surgeons of the United States, 1912–13, President of the American Medical

Association, 1919–20, and President of the College of Pharmacy and Science, Philadelphia, 1920–25. During the World War he was a member of several committees and boards of the American Red Cross.

Dr. Braisted became an Associate Member of the Medical Society of the District of Columbia in 1914, and was elected to Honorary Membership in 1916, when he was Surgeon General of the United States Navy.

He is survived by his wife, Mrs. Lillian M. Phipps Braisted of West Chester, Pa., and a son, Captain Frank Braisted of the Ninth Naval District, Great Lakes, Illinois.

AURELIUS RIVES SHANDS, M.D., F.A.C.S.

(1860–1941)

Dr. Aurelius Rives Shands, a Life Member of the Medical Society of the District of Columbia, died April 27, 1941, at his home, 901 Sixteenth Street, N.W.

Dr. Shands was born in Petersburg, Virginia, November 5, 1860. He received his degree in medicine from the University of Maryland in 1884. Ten years later he began his practice in Washington and the same year, 1894, was appointed Professor of Orthopedic Surgery at George Washington University School of Medicine, which professorship he held continuously for 38 years. He had served on the staff of Emergency Hospital as head of the orthopedic section and for many years was secretary of the Hospital's Board of Directors.

Dr. Shands became a member of the Medical Association of the District of Columbia in 1894 and a member of the Medical Society in 1895. Life Membership in the Society was conferred upon him in 1935. He was President of the American Orthopedic Association in 1912, a Fellow of the American College of Surgeons, and a member of the American Medical Association, the Southern Surgical Association, the Washington Academy of Sciences and the Cosmos Club. He contributed many articles on orthopedic surgery to medical journals.

Surviving are his widow, Mrs. Agnes Shands; a daughter, Miss Agnes H. Shands of Washington; three sons, Richard E., also of Washington, George K. of Narrows, Va., and Dr. A. R. Shands, Jr. of Wilmington, Delaware.

JAMES HUGH EARLEY, M.D., M.Sc., F.A.C.S.

(1896–1941)

Dr. James Hugh Earley, otolaryngolist, died suddenly May 9, 1941, at his home, 1102 Sixteenth Street, N. W.

Dr. Earley was born in Shenandoah, Pennsylvania, June 16, 1896. After receiving his degree in medicine from the University of Michigan in 1922, he served his internship at Providence Hospital and began active practice in the District the following year. He interrupted his practice for a year of postgraduate study at the University of Pennsylvania, receiving the degree Master of Science in 1930.

Dr. Earley was appointed Associate Professor of Clinical Otorhinolaryngology at Georgetown University School of Medicine in 1934, which position he retained until his death. He was on the surgical staff of Georgetown University, Providence, Gallinger and Episcopal Eye, Ear and Throat Hospitals and Glenn Dale Sanatorium. He also served on the District Board of Police and Fire Surgeons.

Dr. Earley was elected an Active Member of the Medical Society of the District of Columbia in 1924. He was a Fellow of the American College of Surgeons and of the American Medical Association; his memberships also included the American Therapeutic Society, the American Academy of Ophthalmology and Otolaryngology and the American Laryngological, Rhinological and Otological Society.

Surviving are his widow, Mrs. Kathleen Ready Earley, and four children, James, William, Joseph and Mary.

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THE COMBINED ALKALOIDAL TREATMENT OF PARKINSONISM*

ALEXANDER SIMON, M.D., AND J. LLOYD MORROW, M.D., C.M.
Saint Elizabeths Hospital

HISTORICAL BACKGROUND

There have been many forms of treatment advocated for parkinsonism, but the most recent is the so-called "Bulgarian treatment" as originated by the plant collector Ivan Raeff[1] of Chipka, Bulgaria. His successful treatment of parkinsonism with a wine extract of locally collected belladonna roots was investigated by Italian physicians who, after following his directions faithfully, were convinced of its efficacy. In 1934, through the influence of the Queen of Italy, the treatment was introduced into Italian clinics under the direction of Panegrossi.[1] In 1938 the William J. Matheson Commission for Encephalitis Research in this country began an investigation of the treatment which culminated in favorable reports by Neal,[2] Vollmer,[3] Gayle,[4] Forster,[5] Draper,[6] and Eves.[7]

Raeff's original therapeutic régime deserves description, although a good many of his directions are, to say the least, quite obscure. He issued 4 medicinal packages. Powders 1 and 2 were to be boiled in 600 c.c. of white wine for 10 minutes, cooled, filtered, and kept in tightly closed bottles. The first dose consisting of $\frac{1}{2}$ to 3 teaspoonfuls of the mixture, depending on the age of the patient, was to be given the patient aroused from sleep and repeated every 24 hours in like sequence. Critical reactions sometimes occurred in the beginning of the treatment; these consisted of delirium, hallucinations, or incoherent speech of only a few hours' duration. The designated antidote was boiled milk. The instructions further stated that powder number 3 was to be taken every morning before a breakfast consisting of hot milk or tea. A pea-sized portion of powder number 4 was to be chewed 6 or 7 times a day, and the mouth subsequently rinsed. Cod liver oil was recommended for children and exercises for every patient. In the diet only white meat was permitted. The diet was to consist chiefly of eggs, milk, butter, cheese, vegetables, fruit, rice, olives, cakes and candy. Spices, alcohol, coffee and tobacco were eliminated. The patients were advised to sleep on the right side, and if this was not possible, on the left, but not on the back.

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* Read before the Section on Neurology and Psychiatry of the Society, January 16, 1941.

During the hot summer season the patient was to bathe after lunch for 10 minutes in water warmed by the sun.

An analysis of these powders revealed that the first contained 30 grams of belladonna root; the second, animal charcoal; the third, a mixture of bread dough, sawdust and nutmeg; and the fourth, calmus root. The therapeutic efficacy of animal charcoal, bread dough, sawdust and nutmeg in the treatment of encephalitis is questionable. The calmus root is a carminative which when chewed might have had a strong psychotherapeutic effect, but which in itself could do little to influence any of the physical symptoms except for the dryness of the mouth which may occur during treatment. It is very doubtful that the dietary restrictions imposed were of much value, although the exercises prescribed were of general good to the patient. It is quite obvious that the potent therapeutic agent in this treatment was the belladonna root itself.

PLAN OF TREATMENT

Early in August, 1940 a group of 32 patients with extrapyramidal disorders were started on a course of treatment with a drug containing a combination of several alkaloids. The product utilized is known as Rabellon and was furnished us by Sharpe and Dohme of Philadelphia. Rabellon is a synthetic preparation containing 0.5 mg. of alkaloids in the following combination: hyoscyamine 0.45 mg., atropine 0.037 mg., and scopolamine 0.012 mg. Vollmer has stated that "this synthetic compound proved to be of at least the same efficacy in treatment of parkinsonism as the most effective natural extracts of Bulgarian roots; on the basis of this definite clinical observation, any obscure suppositions or mystic implications about the Bulgarian treatment can be dismissed."

Inasmuch as the alkaloids utilized in this treatment are powerful drugs and since unpleasant side-effects and toxic manifestations may occur when the proper individual dose is exceeded, the drug must be administered only in slowly increasing doses and with care. Especially in the first few weeks the patients must be frequently observed until the proper maintenance dose is established. There may be extreme variations in the dosages required by different patients. Some can be worked up to a satisfactory maintenance dose quite rapidly; others must be dealt with patiently, and frequently it may become necessary to reduce the amount of drug administered and to build up the dosage in stages. It is safest to begin with $\frac{1}{4}$ of a tablet 3 times a day and to increase the dose by $\frac{1}{4}$ to $\frac{1}{2}$ tablet daily until the optimum dosage is reached. The first appearance of side-effects, such as dryness of the mouth, blurring of vision, and mydriasis, is a signal for added precaution before dosage is increased. Usually the optimum dose will be accompanied by slight by-effects and the patient must decide whether or not he wishes to suffer some slight inconvenience for the sake of general improvement. With the maintenance of the optimum dose such an unpleasant side-effect as blurring of vision usually spontaneously disappears in a short time. If a patient has already been receiving the hyoscine, stramonium, or atropine treatment, it is wiser to institute the combined alkaloid treatment with doses higher than $\frac{1}{4}$ to $\frac{1}{2}$ tablet so that the patient will have few, if any, uncomfortable symptoms in passing from one form of therapy to another. During the hot weather months patients are not as apt to tolerate the drug as well and the maintenance dose may have to be decreased.

The optimum therapeutic dose varies in each individual patient. In Vollmer's series the dose varied from $\frac{1}{2}$ to 7 tablets 3 times a day but ranged on the average from $1\frac{1}{2}$ to 2 tablets 3 times a day, or 2.25 to 3.0 mg. of total alkaloids per day. In Gayle's group of cases the dose varied from 2.0 to 5.5 mg. of total alkaloids daily. In our own series the dose varied from 3 tablets 3 times a day to 6 tablets

4 times a day, or 4.05 to 10.8 mg. of total alkaloids daily. Most of our patients were held on a maintenance dosage of 5 tablets 3 times daily, or 6.75 mg. of total alkaloids daily, an amount that is much higher than the average daily dose reported by most authors.

The side-effects which first appear are usually dryness of the mouth and mydriasis. Many of the patients have spontaneously learned that chewing gum is the best antidote for the dryness. Occasionally, in the first few weeks of treatment, gastrointestinal disturbances and difficulty in urination may occur, but if the dosage is decreased slightly and then maintained for a short time, it can again be gradually increased without recurrence of uncomfortable symptoms. One of our patients had an attack of persistent vomiting which stopped when treatment was discontinued. No hematuria and no toxic manifestations such as excitement, delirium or hallucinations were noted. Occasionally a patient would complain of sluggishness and sleepiness, and these symptoms could usually be counteracted by either reducing the dosage or by spreading out the administration of the drug more frequently during the day. The most common of the side-effects are blurring of vision and inability to read. If the dose is decreased this usually disappears and in many cases in which the dose was maintained in spite of this disagreeable symptom it spontaneously disappeared in one to two weeks.

CLINICAL RESULTS

Of the 32 patients treated, 25 were cases of postencephalitic parkinsonism, and 7 had extrapyramidal disorders associated with hyperkinetic signs. There were 24 white patients and 8 colored. Of the group, 21 were males and 11 females. The youngest of the group was 15 years of age, the oldest 65. All of the patients had had symptoms for more than 4 years, 1 patient having been ill 20 years. The average duration of illness was 13.2 years.

The cases were classified as follows:

1. Severe—those patients who were bedridden and required assistance in feeding and daily needs
2. Moderately severe—those patients who were able to walk, however unsteadily, but displayed marked tremor, hypertonicity, and frequency of oculogyric crises
3. Mild—those patients who despite mild tremor and rigidity could look after their own needs and perform light occupational tasks.

In accordance with these criteria there were 6 severe cases, 17 moderately severe, and 9 mild. Most of the patients had been receiving hyoscine, stramonium, benzedrine, or combinations of these drugs before the administration of Rabellon.

During the first week of treatment some difficulty was encountered because of the change from a previously established régime to a new form of therapy. Several of the patients resented the change in spite of explanations, but attitudes of temerity, undue optimism and indifference were all encountered. By the end of the first week of treatment, in those who were to improve subsequently, there appeared evidences of diminishing muscular rigidity, improvement in mood, decreased tension, greater ease in walking, diminution of the frequency of oculogyric crises, and an expression from the patients that they felt generally better. For example, one severely ill patient was noted to keep her eyes open longer, to talk more clearly, and to comprehend more quickly. There were two complaints of dysuria, and several patients mentioned dry mouth or blurring of vision.

During the second week, general improvement was even more noticeable in the reacting cases. The mood, muscular rigidity, sialorrhea, ability to walk, sleeping, and frequency of oculogyric crises were noted to be better. Tremor was generally diminished although still present.

Following the second week of treatment, optimum improvement was noted in those cases with symptoms and signs which were to be benefited at all. Twenty-two of the patients looked and admittedly felt better, 24 stated that they felt more relaxed and that the medicine was helping them. Most obvious were improvement in walking, talking, increased facial expression, and a newly acquired ability to carry a food tray. Marked improvement occurred, however, only in isolated cases. Symptoms most relieved were muscular rigidity, bradykinetic movements, and the general mood. Oculogyric crises were diminished in frequency, and one patient reported that he had had none for several weeks although previously one had occurred almost weekly. Two patients said that their customary crying spells were diminished in number. Speech was noticeably improved in 8 cases. Patients who demonstrated verbigeration showed a definite decrease in this symptom. The stuttering and stammering of 1 patient became definitely less noticeable. The tendency to monotony in speech was changed little under treatment. However, the forcefulness of the spoken word was enhanced in several patients who before could hardly speak above a whisper. One patient whose speech was almost unintelligible before treatment could carry on a limited but fairly clear conversation after 2 months of treatment. Sialorrhea was so marked in 1 patient before treatment began that he carried a towel under his chin at all times. After 1 month of treatment he was able to discard the towel.

Tremor decreased in many of the patients, but this symptom was extremely variable and difficult to evaluate. During the course of a day, tremor is apt to vary in intensity depending on the emotional state of the patient and how soon after the administration of the last dose the patient is observed. Two hours after the drug is given the tremor is usually least marked. Patients often reported that they were able to "push a block faster," or were able to "handle a broom better," or that they "moved more easily." In 1 case there was a partial return of automatic associated movements of the arms in walking.

Patients with choreo-athetotic movements were affected little if at all by the treatment. Two markedly advanced rigid postencephalitics displayed only a slightly favorable response. One 13-year-old boy with a long history of compulsive behavior continued to "kiss the floor," lie, steal, and to remain a difficult behavior problem. One colored male, postencephalitic, made a suicidal gesture as a protest against the treatment, but since he has observed several of his fellow patients make considerable improvement he is begging that the treatment be reinstituted in his case. Recurrent periods of confused excitement in 1 postencephalitic continued unabated. While there was subjective improvement in the majority of the patients there was little if any change in their abnormal mental content if such were present. If hallucinations or delusions were present these remained unchanged.

Of the total group of 32 patients treated we consider 7 moderately improved, 5 slightly improved, and 20 unimproved. Of the group with nonencephalitic disorders (7), only 1 patient showed slight improvement. She was a patient with marked rigidity and other bradykinetic signs as a result of carbon monoxide poisoning. Subjectively, however, she stated she felt better. Objectively, there was a slight improvement in walking and talking. The other 6 patients were all considered unimproved. They included cases of disseminated encephalomyelitis, chronic chorea, and neurologic complications following gas poisoning. Most of them demonstrated hyperkinetic signs which were not alleviated to any degree by the treatment.

Of the group of 14 unimproved patients in the postencephalitic group, 3 were discontinued from treatment after less than 1 week's treatment. One of these, an Indian woman, developed bronchopneumonia unrelated to the therapy and later died. It was decided, finally, in another that the evidence for a definite diagnosis of postencephalitic disorder was too flimsy. As previously mentioned, the third of this group made a suicidal gesture in protest against the new treatment 2 days after it was instituted. The remaining patients in this group were treated for periods varying from 3 weeks to 5½ months before the Rabellon was discontinued. The original severity of the patients' symptoms prior to institution of therapy had little bearing on their degree of improvement. There were a number with mild, moderately severe and severe symptomatology who showed no improvement.

Of the 5 patients who were slightly improved, all were considered only moderately ill and were treated for periods of 2 months or more. Two of these had been receiving no treatment, and 3 had taken stramonium before Rabellon was begun.

Among the 7 patients who were moderately improved the severity of the symptoms was considered mild in 2 and moderate in 5. Two had received no treatment before the use of Rabellon; the remaining had received hyoscine hydrobromide, gr. $\frac{1}{100}$, 2 to 4 times a day.

COMPARISON WITH OTHER FORMS OF TREATMENT

In the early days of the treatment Raeff's directions were followed religiously. Only the extract of the belladonna root grown in Bulgaria and particularly in the region of Chipka, and prepared according to Raeff's directions, was thought to be effective. However, in a short time, reports from Germany, Austria, Italy, England and the United States appeared which indicated that their respective locally grown roots gave equally satisfactory clinical results. A number of observers[1, 8, 9, 10, 11] also reported that the alkaloids of the Bulgarian root were no different than the alkaloids found in the roots grown in their respective countries. Several authors, however, have found the Bulgarian belladonna much superior to native grown roots (Witzleben,[12] Neuwahl,[13] Neal and Dillenberg[14]). There are probably more than 8 alkaloids which can be extracted from the belladonna root, and no adequate studies have been made of the proportions of these substances in any one root or of specific differences in roots grown in various countries.

The clinicians who first utilized the Bulgarian treatment usually prepared a decoction or extraction. The decoctions proved to be unstable, but the extractions were of more value. Every report on the Bulgarian treatment or the combined alkaloidal treatment as outlined by Vollmer has concluded with the opinion that these methods are by far the most effective method of therapy for postencephalitic parkinsonism.

Panegrossi, using a decoction of the belladonna root, reported in 1938 on a series of 1,100 cases treated over a period of 4 years, stating that 68 per cent of 200 mild cases, 49 per cent of 533 moderately severe cases, and 14 per cent of the 328 very severe cases resulted in cure, certainly a very enviable record. Neal in 1939 reported on a series of 75 cases that 30 per cent were greatly improved, 48 per cent moderately improved, and 22 per cent slightly improved. The recent report of Neal and Dillenberg, who compared the effects of Rabellon with those of Bellabulgara (an extract of Bulgarian belladonna root), would indicate Bellabulgara to be superior to Rabellon. Of 23 very severe cases they treated with Bellabulgara, 3 were unimproved, 5 slightly improved, 3 moderately improved, and 3 greatly improved. Gayle stated that, with the possible exception of 1 of 35 cases of parkinsonism that he treated with Rabellon, all of his patients showed varying degrees of improvement from slight to marked. Of 13 patients with postencephalitic parkinsonism that Eves treated, 11 showed marked improvement.

COMMENT

Almost any new form of treatment in a chronically ill patient is apt to bring forth responses of subjective improvement and even of objective improvement, and it will be only after a longer period of observation that it can be stated definitely whether the combined alkaloidal therapy is of more value than any other previous form of therapy utilized in the treatment of parkinsonism. We have had no opportunity to compare the combined alkaloidal therapy with the true Bulgarian treatment, and this will be one point for future investigation. Psychologic factors are of obvious importance in postencephalitic patients, especially in those with behavior disorders and psychopathic tendencies. Most of these patients are quite suggestible, and increased attention on the part of ward personnel and the physicians may be an important factor in the improvement of some of these patients. Almost all of our patients had been, just prior to the establishment of the Rabellon therapy, on varying doses of hyoscine or stramonium, and the improvement observed in these patients is therefore all the more noteworthy. In none of them could we say, however, that a symptomatic cure had resulted.

Our results on the whole have been quite disappointing when compared with those of other authors. This cannot be attributed entirely to the severity of our cases, since many of them were considered only moderately or slightly ill, at least so far as their physical symptoms were concerned. Most of our patients were held on a maintenance dose of 5 tablets of Rabellon 3 times daily, or 6.75 mg. of total alkaloids daily, which is much higher than the average dosage reported by others. Undertreatment was certainly not a factor in our lack of dramatic results.

SUMMARY

1. A group of 32 patients (25 with postencephalitic parkinsonism and 7 with other extrapyramidal disorders) were treated with Rabellon.

2. After a period of treatment varying in individual cases from 2 days to 5½ months, there were 14 unimproved, 4 slightly improved, and 7 moderately improved in the postencephalitic group. In the group with other extrapyramidal disorders, 6 were unimproved and 1 slightly improved.

3. While there was subjective improvement in the majority of the cases, if abnormal mental trends were present these remained unaffected by Rabellon therapy.

4. The symptoms ameliorated by the treatment were the rigidity, gait difficulties, speech disturbances, sialorrhea and tremor.

5. The details of treatment with Rabellon and the possible complications have been discussed.

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Tuberculosis, like all plagues, spreads most dangerously in the close contacts of the family. Resistance breaks down before a mass attack, and the steady bombardment of each other by husbands and wives, parents and children, brothers and sisters is the best of all mechanisms for perpetuating the disease. People exposed to tuberculosis in their own homes are, roughly, ten times as likely to fall sick of it as are people in the population at large. Smith, G.: Plague On Us. New York: Commonwealth Fund, 1941.

RUPTURE OF THE INTESTINES FROM NONPENETRATING INJURIES OF THE ABDOMEN

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The story of intestinal "blow-outs" from nonpenetrating abdominal injuries forms one of the most interesting chapters in progressive surgery. The darkest part of this story was given by Curtis[1] in 1887. He presented 116 cases with reference to their clinical and pathologic aspects. One of his conclusions, as cited by Gage,[2] reads as follows: "The treatment of contusions of the abdomen should be purely expectant in the early stages until symptoms of internal injury have appeared, or until the full extent of the time in which they may be expected has passed. Explorative laparotomy at this time is inadvisable." It is difficult to understand such advice from one reporting 116 cases, none of which was operated upon, and all of which died. This complacency was seriously challenged by Gage who analyzed the collected case reports for the period between 1887 and 1902. There were 85 cases in this group. Forty were operated upon and 17 recovered. Of the 45 not subjected to surgery all died. Following this timely survey there has been an ever-increasing number of contributions on this subject. Counseller[3] in 1935, from an incomplete review of the literature, collected 1,183 cases of ruptures of the intestines from nonpenetrating injuries of the abdomen. The disturbing element in his review was the persistence of an extremely high death rate. The total mortality was 73.4 per cent. Siegel,[4] in reporting his study of 376 cases in 1899, showed that the most important single factor influencing the mortality was the element of time. His figures proved that there was a rapid rise in the death rate with each hour of delay in instituting proper surgical treatment. Allen[5] in 1931 analyzed 41 consecutive cases of ruptured bowel, in all of which the patients were operated upon and 19 of whom lived. All of the successful cases were operated upon within 24 hours after the accident. Totten[6] in 1938 reported 25 cases of subcutaneous rupture of the intestines, 16 of which were operated upon with only 5 deaths.

There can be no question as to the proper method of treatment of a ruptured hollow viscus when the rupture is recognized before generalized peritonitis has developed. The problem of early diagnosis remains as acute as in the days of Homer Gage. In this communication we wish to report 10 cases of rupture of the intestines from nonpenetrating injuries of the abdomen and to discuss the pertinent points in the early diagnosis of such lesions (table 1).

There has been a steady increase in the frequency of injuries to the intestinal tract from nonpenetrating blows to the abdominal wall during our machine age. This type of injury has now become more common than ruptures of the solid organs. Before the mechanical era, blows from blunt instruments, falls against hard nonmovable objects, and horse kicks were the common accidents producing internal injuries. Today the catalog of traumatic agents has become so numerous that it is impossible to list them. The most frequent donor, however, is the automobile, and the usual recipient is the pedestrian. Automobile accidents accounted for 7 of our cases, 2 resulting from a sudden fall over the handle bars of a bicycle, and 1 being received in a fall from a fast moving train. It is

TABLE 1

Summary of 10 Cases of Intestinal Ruptures from Nonpenetrating Injuries of the Abdomen (from the Records of Gallinger Municipal Hospital)

CASE NO.	EXCITING AGENT	X-RAY FINDINGS	ASSOCIATED INJURY	SEGMENT OF BOWEL	SITE OF RUPTURE	MESENTERIC DAMAGE	OPERATION	COMPLICATIONS	RESULTS
1	Auto	Not made	None	Ileum	Anti-mesenteric border	None	Simple closure	Peritonitis	Cured
2	Auto	Not made	Abdominal contusion; fracture of left tibia and fibula	Jejunum	Mesenteric border	Not recorded	Simple closure	Peritonitis	Died
3	Auto and bicycle	Free gas under diaphragm	Laceration of shoulder; contused abrasion of abdomen	Jejunum	Mesenteric border	Rent in mesentery and gastrocolic ligament	Resection of segment	Disruption of wound	Cured
4	Bicycle	Free gas under diaphragm	None	Jejunum	Mesenteric border	Slight rent	Simple closure	None	Cured
5	Fall from train	Negative	Contused abdominal wall	Ileum and cecum	Mesenteric border in ileum; anti-mesenteric border in cecum	Rent	Simple closure	Fecal fistula; pneumonia	Cured
6	Auto	Local ileus	None	Duodenum and hepatic flexure of colon	Mesenteric border	Rent in mesocolon and gastrocolic ligament	Drainage	Fecal fistula; hemorrhage	Cured
7	Auto	Negative	Contusion of abdominal wall; fracture of pelvis	Ileum	Mesenteric border	Rent	Drainage of abscess; ileostomy; short circuit ileocolostomy	Abscess; fistula of ileum	Persistent fistula of blind loop
8	Auto	Free gas under diaphragm	None	Jejunum	Mesenteric border	Rent	Refused operation	Peritonitis	Died
9	Auto	Not made	Contusion of abdominal wall; fracture of pelvis	Ileum	Mesenteric border	Rent; hematoma	None	Peritonitis	Died
10	Bicycle	Local ileus	None	Ileum	Not recorded	Not recorded	Drainage of abscess	Local abscess	Cured

apparent that the type of object striking the abdomen is not as important as the violence of the impact.

The injury may leave some telltale mark on the abdominal wall, but frequently it does not. There may be a brush burn, a contusion, or even a widespread hematoma. The failure to find any evidence of external trauma should not lead to a false sense of security. In about 10 per cent of all the reported cases there has been an associated serious injury to other parts of the body. In 3 of our cases there were multiple fractures. In 5 there were contusions of the abdominal wall.

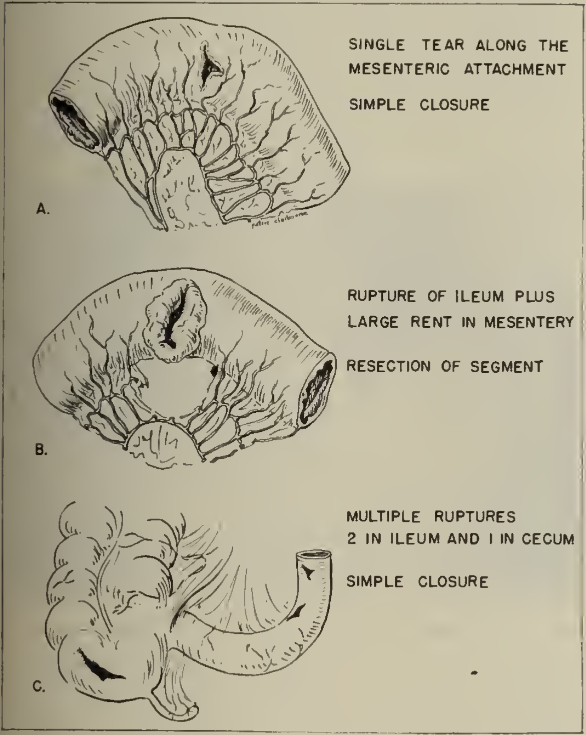
SINGLE TEAR ALONG THE MESENTERIC ATTACHMENT
SIMPLE CLOSURE
A.
RUPTURE OF ILEUM PLUS LARGE RENT IN MESENTERY
RESECTION OF SEGMENT
B.
MULTIPLE RUPTURES 2 IN ILEUM AND 1 IN CECUM
SIMPLE CLOSURE
C.

Fig. 1. Types and sites of rupture of the intestines and damage to the mesentery.

The modus operandi whereby a nonpenetrating injury causes a "blow-out" of the bowel varies in different cases. The size, location and character of the tear in the intestine and the associated mesenteric damage give the most reliable information as to the mechanism by which it was produced. The size of the hole in the gut may range from that of a pin point rupture to complete severance of bowel. Complete division of the bowel is indeed infrequent. The most common site of the rupture in the intestinal tube is along the mesenteric border. The small tears in our cases were located at the point where the mesenteric vessels penetrate the wall of the bowel (fig. 1). Apparently this is the weak spot in the intestinal wall. It is the same area where diverticula are most frequently found. In the cases of larger ruptures it may be impossible to detect the point where the initial damage occurred. It seems that ruptures along the mesenteric border result primarily from continued force being applied against the bowel wall after the mesentery has stretched to its limit. This assumption is borne out by the fact that ruptures are most frequent at the levels where the mesentery is short and

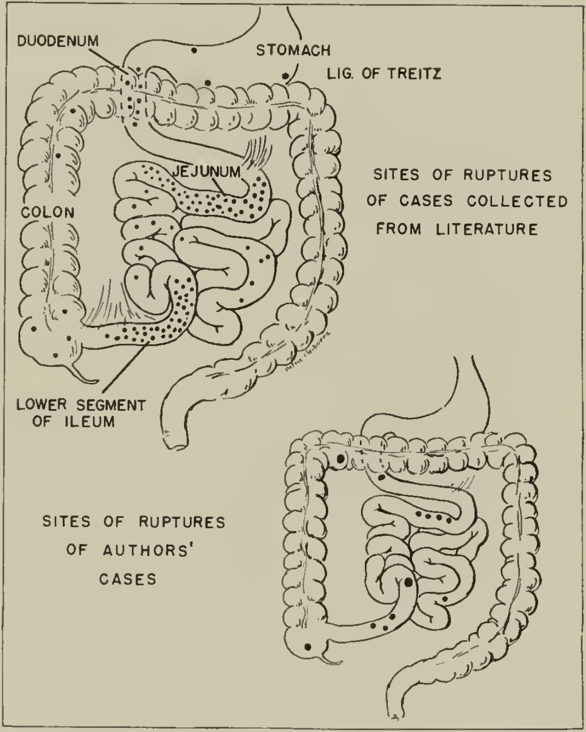
DUODENUM
STOMACH
LIG. OF TREITZ
JEJUNUM
COLON
SITES OF RUPTURES OF CASES COLLECTED FROM LITERATURE
LOWER SEGMENT OF ILEUM
SITES OF RUPTURES OF AUTHORS' CASES

Fig. 2. Favorite locations of ruptures of the intestines based on collected cases from review of the literature; location of ruptures in the authors' cases.

firmly fixed. In this type of rupture there is often an associated mesenteric injury. These injuries range from slight rents to the complete separation of a wide strip of the mesentery from the bowel wall. There may be an associated hematoma in the wall of the mesentery. Occasionally larger vessels are torn and a severe free hemorrhage follows. Cooke[7] found mesenteric damage in 4 out of 12 cases. Vergoz[8] found the mesentery injured in 5 of his 11 cases. In 7 of our 10 cases there was an associated injury to the adjacent mesentery.

Another type of rupture is the simple "blow-out" along the antimesenteric border of the gut. These ruptures result from compression of a fixed segment of filled bowel against the vertebrae or pelvis. They are much less frequent than rupture of the mesenteric border but may be found in any segment of the intestinal tract. In 3 of our cases the "blow-outs" were found in the antimesenteric border of the bowel.

There are certain sites of predilection where ruptures are most likely to occur. The favorite locations are the jejunum and the lower portion of the ileum (fig. 2). Ruptures occur at other levels of the ileum less frequently. There were 4 ruptures of the jejunum and 5 in the ileum in our series. Special mention should be made of ruptures of the duodenum. This portion of the bowel is ruptured in about 10 per cent of the cases. A portion of the duodenum is retroperitoneal, and if this part is ruptured the contents may be completely walled off. A careful search may reveal only retroperitoneal emphysema and bile-stained duodenal contents. This should always be kept in mind when exploring a suspected case. Ruptures of the large bowel and stomach are uncommon. Multiple ruptures are not infrequent. In one of our cases there were 2 perforations in the lower ileum and 1 in the cecum. In another case the duodenum and hepatic flexure of the colon were ruptured. Cooke found multiple ruptures in 3 of his 12 cases. Lurje[9] reported a case in which the duodenum, transverse, and ascending portions of the colon all were ruptured.

The diagnosis of a "rupture" of a segment of intestine from nonpenetrating injuries is beset with considerable difficulty. There is only one positive sign, and that may be lacking or overlooked. We are speaking of the presence of free gas in the peritoneal cavity as demonstrated through the medium of the X-rays. In reviewing the literature of reports of subcutaneous rupture of the intestines one finds scant mention of the value of X-ray studies as a means of diagnosis. Christopher,[10] in reporting a case of rupture of the jejunum, presented a skiagram showing the presence of free air beneath the diaphragm. In 3 out of 6 of our cases in which an X-ray film of the abdomen was made, the diagnosis of intestinal rupture was confirmed by finding free gas in the peritoneal cavity (fig. 3). In 2 other cases the presence of fluid levels in the small intestine indicated an ileus, which we have considered early evidence of localized peritonitis. It must be remembered that the amount of gas escaping into the peritoneal cavity varies according to the intestinal content. A careful X-ray study should be made in all suspected cases. A single view may prove negative, but subsequent plates made in other positions may demonstrate the presence of free gas.

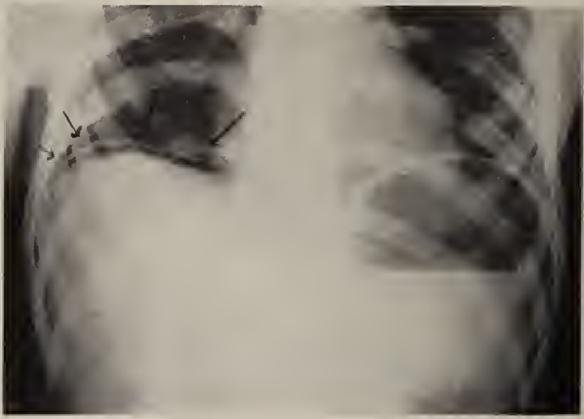

FIG. 3. Skiagram of abdomen in case of ruptured jejunum showing collection of free gas under right diaphragm.

The second most important sign of a ruptured intestine is that of generalized tenderness throughout the abdomen. This sign has been present in all of our cases and has been repeatedly emphasized in the literature. It is the direct result of diffuse irritation of the peritoneum from the escaping contents of the intestines. The irritation is that of actual bacterial invasion and means peritonitis. In the early stages the abdomen may be soft and flat. As the infection increases the abdomen becomes rigid and distended.

The next most valuable symptom is the persistent vomiting. In about 90 per cent of all the cases reported, vomiting has occurred early after the accident and has persisted until the peritonitis was relieved or the patient died.

A silent abdomen will be found in the cases in which the peritonitis has become generalized. It must be remembered that in some instances the leak is sealed quickly and the degree of contamination will be limited. Furthermore, in ruptures of the lower portions of the ileum the escaping intestinal contents may gravitate to the pelvis. Under such circumstances there may be only a localized peritonitis, and active peristalsis may be heard in other parts of the abdomen. The failure to appreciate this state of affairs led to a mistaken sense of security in 1 of our cases, and a fatal issue resulted. In 2 other cases the diagnosis was not made until walled-off abscesses had formed. Fortunately, in both of these cases the patients recovered after the abscesses were drained.

Other signs and symptoms offer little direct aid in the early diagnosis. Shock may or may not be present. If present it does not indicate that a rupture has occurred. Serious damage to any of the solid organs may be followed by shock. Hemorrhage occurs in some cases of intestinal rupture but cannot be considered as peculiar to this kind of injury. Leukocytosis is usually absent in the early stages. If shock is an initial symptom of the accident, the temperature, pulse and respiration will be altered in proportion to its severity. As the peritoneal infection becomes more generalized the pulse becomes ever more rapid, and the temperature and respiration soon augment also. All of these latter signs are those of generalized peritonitis. To wait for these signs in order to make a diagnosis means, in the words of the great appeaser, that "the bus has been missed."

SUMMARY

The increasing frequency of rupture of the intestines from nonpenetrating injuries of the abdomen presents an urgent problem. Early diagnosis and prompt surgical intervention are the key points to the solution of this problem. The diagnosis of an intestinal rupture must be made in many cases by the simple fact that it cannot be ruled out, rather than by the positive evidence of its presence. By the adoption of such an attitude and through the insistence upon immediate exploration many lives will be saved. In exploring the abdomen the entire intestinal tract must be examined. The surgery in the majority of cases will consist of the simple closure of the rupture and aspiration of the escaped fluid. In some instances the damage to the gut or mesentery will be so extensive that a resection of the involved segment will be required. All cases must be treated as peritonitis. Our policy has been to close the peritoneum and drain only the incision.

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LOCAL ANESTHETIC REACTIONS*

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The use of various cocainlike substitutes has done much to reduce the number of reactions which were all too common when cocaine itself was widely used for local anesthesia, and yet severe and even fatal reactions still occur. Without destroying the confidence of the members of the medical profession in the relative safety of local anesthesia, it is important that their attention be directed from time to time toward these reactions in order that every precaution be observed to prevent their occurrence, that adequate preparation be made to treat them as effectively as possible, and that investigations proceed in an effort to contribute to a better understanding of these reactions and to the greater safety of local anesthesia.

I have reported fully elsewhere[1, 2] some clinical and experimental studies and have reviewed the contributions of other investigators. It is my purpose in this communication to discuss briefly the types of reaction, factors which influence their occurrence, measures which should be taken to prevent them, and suggested aids in treatment.

Although there is a difference in toxicity of the various local anesthetic agents and in the frequency with which their use is attended by serious reactions, the reactions themselves are essentially alike regardless of the particular agent used. I am especially concerned here with those reactions which follow the use of local anesthetics in topical application, nerve blocking, and local infiltration. Reactions in spinal anesthesia are ordinarily attributed to the anesthesia obtained rather than to the anesthetic agent itself. Reactions in caudal anesthesia may be due to the inadvertent subarachnoid injection of the solution.

Two types of reaction are recognized. One is due to true hypersensitivity to the drug and is characterized by an asthmatic response, or by local tissue swelling, induration and pain, at times proceeding to actual tissue necrosis. This type of reaction is less common than the other and, so far as I know, has not resulted in death. The second type is due to a toxic dose or an overdose of the drug. Such reactions may be mild or severe. The mild reactions are often associated with restlessness, perspiration, pallor, palpitations, loquacity, tremors and nausea. The severe reactions have been commonly divided into two types, one characterized by early circulatory collapse and in fatal cases by primary cardiac failure, the other by a more or less prolonged period of convulsions and unconsciousness and in fatal cases by a primary failure of the respiratory center. It is my feeling from the clinical material and from experimental observations on procaine poisoning in guinea pigs and dogs that these reactions are essentially alike. They differ chiefly in the rapidity of onset and the duration of the reaction, and the essential factor is the rapidity with which a toxic dose of the anesthetic agent is absorbed into the blood stream.

When the anesthetic is injected intravenously or is absorbed into the blood stream with great rapidity, the reaction ensues quickly and terminates rapidly. When it is absorbed into the blood stream slowly there is a longer interval before the reaction begins and it lasts longer. In severe examples of both there are generally loss of consciousness, convulsions, and cardiac and respiratory failure. Sometimes the respirations cease first, sometimes the heart beat. In general, there is a tendency for almost simultaneous cardiac and respiratory failure, and this failure is probably due chiefly to action of the drug upon the medullary centers. Experimentally, both with intravenous injections or rapid absorption on the one hand, and with slow absorption from subcutaneous or other tissues on the other hand, there occurs shortly before death a precipitous fall in blood pressure. This collapse is not due to loss of plasma, since the plasma volume, proteins and hematocrit remain relatively constant. When absorption is slow the blood pressure remains normal or elevated up to the time of the terminal collapse. Minute amounts of the drug injected intravenously cause a rise in blood pressure, and larger but not fatal doses bring about an elevation of blood pressure after an abrupt and transient fall. Clinically, reactions occasionally occur in which there are no convulsions but only faintness, pallor, or shock, and sometimes there are reactions without convulsions in which respiratory failure dominates the picture. In general, however, clinical as well as experimental reactions are associated with loss of consciousness, convulsions, and, after a variable time in fatal cases, circulatory collapse and cessation of respiration and the heart beat.

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The lethal dose of local anesthetic agents varies greatly according to the route of administration. In experimental studies of procaine reactions in guinea pigs it was found that the intravenous median lethal dose is only $\frac{1}{10}$ as large as the subcutaneous, the intrapleural median lethal dose about as little as the intravenous, the thoracic paravertebral $\frac{1}{4}$ of the subcutaneous, the lumbar paravertebral about $\frac{1}{2}$ of the subcutaneous, the intramuscular only slightly less than the subcutaneous, and the intraperitoneal almost twice as large as the subcutaneous. These wide differences in the lethal dose according to the route of administration are probably due to differences in the rate of absorption from the various tissues and body cavities. Animals dying after injection by various routes exhibit roughly the same procaine level in the blood although the actual amount injected varies widely; and presumably with all methods of administration, death is consequent upon the attaining of a certain critical concentration in the blood. The clinical importance of these observations is evident: Every care should be taken to avoid injection of the anesthetic into the blood stream or pleural cavity, and one should use smaller amounts of the drug in paravertebral injections than in subcutaneous infiltration.

One would naturally like to know what constitutes a clinical "safe dose," but this is impossible to determine. Although 2,500 mg. of procaine has been widely used without untoward effects, fatal reactions have followed injection of as little as 30, 20, and even 12.5 mg. In experimental animals there is relatively little individual variation in the lethal dose among members of a given species; but in patients one must recognize the occasional occurrence of a true idiosyncrasy, and what constitutes a safe dose for most individuals may in a rare instance be a toxic dose.

Certain other factors are known to influence the lethal dose. In experimental studies the lethal dose is somewhat less with more concentrated solutions than with dilute solutions, probably dependent upon the more rapid absorption of the smaller volume of the more concentrated solutions. A more important consideration in determining the concentration of the anesthetic to be employed is the fact that satisfactory anesthesia is apt to be obtained with an actually smaller amount of the anesthetic if a dilute solution is used because it is probably necessary that a certain volume be injected regardless of its concentration. Furthermore, if a small amount should be injected inadvertently into the blood stream it would be less likely to prove fatal if a dilute solution was being used. The sole advantage of a more concentrated solution lies in the greater duration of the anesthesia obtained. If adrenalin is used with the anesthetic, the duration of the anesthesia is increased remarkably; and in addition, by slowing the absorption, adrenalin increases tolerance to the anesthetic. Consequently, I feel that adrenalin should always be used unless specifically contraindicated. Anything that makes absorption slower increases the safety of the anesthetic. One can inject intravenously much more than the lethal dose without a fatal reaction provided the injection is made very slowly. This fact depends upon the very rapid destruction or detoxification of the anesthetic. As regards procaine, which is the most widely used of the local anesthetic agents, $\frac{1}{2}$ per cent solution will prove practical for routine use, and probably it should not be used in greater concentration than 1 per cent.

Old age decreases tolerance to procaine somewhat. Since this drug, and perhaps the other local anesthetic agents, is probably destroyed or detoxified in the liver, decreased liver function and any circulatory difficulty which may hinder prompt transportation of the drug to the liver for detoxification may decrease tolerance to it. Ether anesthesia likewise decreases tolerance to procaine. It is suggested that smaller amounts of the local anesthetics than one would ordinarily employ be used in the old and debilitated, in those with definite liver disease or circulatory collapse, and as supplementary anesthesia during the course of general ether anesthesia.

All anesthetic solutions should be properly labeled, and the operator should take precautions to make sure he is provided with the desired solution. A number of deaths have occurred because the solution injected was not that which the operator thought he was using.

Many suggestions have been made concerning the prophylaxis and treatment of local anesthetic reactions. The one prophylactic agent about which there is general agreement as to its efficacy is the barbiturate group of drugs. I feel that one of the barbiturates should be given routinely before local anesthesia. The more toxic barbiturates seem to be the more efficacious, and the ideal barbiturate would apparently be one combining high toxicity and long-continued action. The barbiturates seem to reduce the incidence of the mild toxic reactions, and they are also of definite value in preventing and treating those severer reactions which are the result of slow absorption of a toxic dose. Too much faith must not be put in the prophylactic value of these drugs, however. It is apparently true that the higher the animal as regards brain development, the more protection the barbiturates afford. It must be remembered, however, that, in guinea pigs at least, the use of effective doses of nembutal will not quite double the subcutaneous median lethal dose, whereas an intravenous or intrapleural injection of the anesthetic will decrease the lethal dose to $\frac{1}{10}$ of the subcutaneous lethal dose. Furthermore, in experimental work the barbiturates are of no value in preventing reactions following the rapid absorption of the anesthetic, but, on the other hand, their use actually decreases tolerance to the anesthetic. Undoubtedly this fact holds true in human beings as well. No entirely satisfactory suggestion has been made concerning the prevention or treatment of the reactions which follow rapid absorption of the anesthetic agent, except the exercise of the greatest care to avoid injection into the blood stream, and the use of small quantities of the anesthetic in areas known to be characterized by the capacity for rapid absorption. Until more is learned about the treatment of such reactions it is suggested that adrenalin or some cardiorespiratory stimulant such as coramine or metrazol be given and that oxygen inhalation and artificial respiration be used when respiratory difficulty is present. The allergic or hypersensitivity reactions may occasionally be prevented by careful inquiry into the patient's past experiences with the anesthetic drugs. Routine skin testing before using local anesthesia is hardly necessary because these reactions are extremely rare.

In general, one may say that more is known about precautions which may be taken to avoid local anesthetic reactions than is known about their treatment. The reactions are few in number, and local anesthesia is probably the safest of all anesthetics. Yet every care must be exercised. Proper labeling of solutions; use of only dilute solutions; use of adrenalin except when contraindicated; slow injections with care to avoid intravenous or intrapleural injection; the use of smaller amounts in regions where absorption is known or thought to be rapid, in old and very ill patients, and in those under general ether anesthesia; and the preliminary use of barbiturates should do much to reduce the incidence of reactions and to make local anesthesia still safer.

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TYPHUS FEVER IN WASHINGTON

REPORT OF A CASE

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Typhus fever is caused by the Rickettsia prowazeki which is transmitted to man by the bite of an infected body louse or by the bite of a rat flea. It may be epidemic or endemic, the endemic form being prevalent in the Southern United States and the epidemic variety in Central Europe, Africa and Ireland.

The disease is characterized by sudden onset; a continuous high fever which lasts about two weeks; a rash appearing on about the fourth or fifth day, first on the trunk and then spreading toward the periphery; marked prostration; and often delirium and other severe nervous manifestations. A positive Weil-Felix reaction in high dilutions is obtained. Of importance are the pulmonary findings, which may be either bronchitis or bronchopneumonia.

This report deals with what is believed to be the first proved case of typhus fever in the District of Columbia. In the past there have been cases which were considered to be typhus fever, but for various reasons this diagnosis could never be substantiated.

Report of Case

The patient, a white man, aged 45 years, was admitted to Sibley Hospital on December 20, 1940 at the request of Dr. B. P. Warren of Laurel, Maryland. He was complaining of chills, fever, generalized aching, and sweating of 2 days' duration. There was no past history that could be considered relevant. The temperature was 102.4°F., the pulse rate was 120, and the respiratory rate was 20. There was mild injection of the conjunctivae. The general appearance was that of one very ill. Examination of the chest was normal except for slightly increased breath sounds and a few scattered râles at both bases posteriorly. The heart was normal except for the tachycardia. The abdomen and extremities were negative, and the reflexes were physiologic. An X-ray film of the chest was reported as showing a probable early lobar pneumonia. Neufeld typing of the sputum failed to reveal any pneumococci. The hemogram showed 80 per cent hemoglobin, 4,100,000 red cells, and 6,900 white cells, of which 72 per cent were polymorphonuclear neutrophiles, 27 per cent lymphocytes, and 1 per cent monocytes. The Schilling index showed 1 per cent young forms, 9 per cent band forms, and 62 per cent segmented forms. The urinalysis was essentially negative.

Because of an impression that the patient had pneumonia, sulfathiazole therapy was begun. The dose was 2 grams at once, followed in 2 hours by 2 grams, and then 1 gram every 4 hours. The next day the concentration of free sulfathiazole in the blood was 4.5 mg. per cent. The temperature dropped to 99°F. and the pulse rate to 90, whereas the respiratory rate remained 20. The sulfathiazole was continued for another 24 hours, during which time the temperature rose to 102.4°F., the pulse rate to 120, and the respiratory rate to 25.

On the second hospital day another X-ray film of the chest was reported as showing a resolving pneumonia.

The hemogram now showed 80 per cent hemoglobin, 3,600,000 red cells, and 6,200 white cells. The differential count showed 87 per cent polymorphonuclears, 12 per cent lymphocytes, and 1 per cent monocytes; the Schilling index gave 4 per cent young forms, 27 per cent band forms, and 56 per cent segmented forms. The urinalysis again was negative. On the fourth hospital day the temperature went as high as 103.8°F., and on this day a maculopapular rash appeared on the abdomen and chest. The conjunctivae became greatly injected. Agglutination tests for typhoid, paratyphoid, and undulant fever were then done and were reported negative. It was at this time that the agglutination against Proteus X 19 was found to be positive in a dilution of 1:320. The red blood cell count and hemoglobin estimation were about the same as before. The total white blood cell count had increased to 9,300 with 91 per cent polymorphonuclears, 8 per cent lymphocytes, and 1 per cent monocytes. Sulfathiazole was now discontinued. Blood cultures taken throughout the course of the disease were all reported negative.

By the sixth hospital day the agglutination against Proteus X 19 was present in a dilution of 1:640, and against B. tularense it was negative. The only treatment was supportive, consisting of sedatives, glucose solution in saline given intravenously, and vitamin B complex given intramuscularly. The rash increased in intensity and spread peripherally, reaching as far as the knees and elbows. By the ninth hospital day the agglutination against Proteus X 19 was positive in a dilution of 1:2560. A hemogram showed 64 per cent hemoglobin, 3,400,000 red blood cells, with the white blood cell count, differential count, and Schilling index remaining about the same. The urinalysis continued to be negative. Dr. Rolla Dyer of the National Institute of Health, because of his interest in this disease, saw the patient at this time and substantiated the diagnosis of typhus fever. Blood taken by him to his laboratory showed the agglutination against Proteus X 19 to be positive in a dilution of 1:5120. After the second week of illness, the symptoms of the disease slowly abated. The temperature fell by lysis, taking 12 days to reach normal. On January 26, 1941 the patient was discharged and considered to be in good condition, there being no complications or sequelae.

COMMENT

One of the physicians of the National Institute of Health went to the Washington Terminal, where the patient was employed as a car inspector, and was able to trap many rats from which the Rickettsia prowazeki was obtained. Following the diagnosis of typhus fever in this patient there have been two subsequent cases of this disease in Washington. Obviously therefore, since the other Rickettsial disease, Rocky Mountain spotted fever, is also endemic in Washington, the necessity for differential diagnosis between the two types of Rickettsial disease may be increasing progressively. In the Eastern type of Rocky Mountain spotted fever the vector is the dog tick, and the disease occurs in the late spring and summer, whereas endemic typhus fever, transmitted by the rat flea or body louse, is seen toward the end of winter. The onset of the two diseases is practically identical, both having sudden and dramatic presenting symptoms. The history of the finding of a full tick on the person is an important clue in the beginning of the illness, pointing to a diagnosis of Rocky Mountain spotted fever. The diseases remain otherwise indistinguishable from the time of onset until the rash appears. In both diseases a rash makes its appearance on about the fourth or fifth day. The location of the eruption is the first objective evidence as to which disease is present. In typhus fever the rash begins on the trunk, spreads peripherally, and does not appear on the face. In Rocky Mountain spotted fever the rash appears first peripherally (ankles, wrist and forehead) and spreads toward the center. In both diseases the eruption consists of pink or rose-colored macules which disappear on pressure and which later become brownish-red or purple. Areas of hemorrhagic necrosis may appear in either disease. The course of the two diseases is otherwise about the same. Each lasts from two to three weeks and resolves by lysis. The patient with typhus fever, however, usually appears more ill throughout the fastigium than the patient with the Eastern variety of Rocky Mountain spotted fever.

There is no specific treatment for either disease. Symptomatic and supportive measures are all that can be offered. Prophylaxis for Rocky Mountain spotted fever consists in stripping the body of clothes once or twice each day and removing any ticks, care being taken not to crush them between the fingers. The yearly use of vaccine for persons liable to exposure is advised. As for typhus fever, persons working in rat-infested areas should keep scrupulously clean and should have their working clothes treated frequently with dry heat or steam. There is no accepted method, at this time, of vaccination.

SUDECK'S ACUTE BONE ATROPHY

REPORT OF A CASE

Arthur J. Mourot, M.D.

Clinical Instructor in Surgery, George Washington University School of Medicine

I shall use the designations Sudeck's bone atrophy, post-traumatic bone atrophy and traumatic painful osteoporosis synonymously.

Whenever an extremity is immobilized, there is a tendency for bone atrophy to occur. This is natural and should be expected in connection with all fractures. In occasional cases, however, the atrophy is profound in degree and occurs with great rapidity. This condition was first described by Sudeck in 1900 as acute bone atrophy. It is a rapidly progressing osteoporosis which involves the bone of an extremity following injury and is especially evident in the bones distal to the injured area. A remarkable thing about this type of atrophy is that it may be very severe following a trivial injury such as a sprain or contusion.

Painful osteoporosis is a condition which often confuses surgeons, especially those treating compensation cases. The surgeon is at a loss to explain the failure of restoration of function and suspects the patient of malingering or being neurotic. Relations between the patient and surgeon, and between patient and insurance company may become quite strained because the cure may take many months or years. That the condition is an unusual one is evident from the fact that only 48 cases of acute bone atrophy were treated at Mayo Clinic between 1912 and 1924.[1]

For many years the roentgenologist believed that acute bone atrophy was due to simple disuse, but this has been proved erroneous, since it may develop in an extremity that has not been immobilized. Sudeck at first believed that the condition was due to a low-grade inflammation, but two years later he agreed with Kienbock, who described it as being due to a reflex neurotrophic phenomenon. Leriché believed it to be due to peripheral nerve injury rather than injury to the bone itself. There are numerous other theories, but most of them assume that it is some neurocirculatory disturbance. The true pathology remains obscure. It has been conclusively proved that the condition is not infectious, but it may follow infection in an adjacent part. It has never been produced experimentally.

Acute traumatic bone atrophy is recognized by the history of trauma, physical examination, and X-ray findings. Sudeck divided the disease into two stages, the acute and the chronic. In a typical case, such as may follow a Colles' fracture, the fracture may be perfectly reduced and a properly fitting cast or splint applied. In one to three weeks the patient begins to complain of severe, knife-like pain in the hand and fingers. Examination at this early stage reveals some swelling of the hand and fingers, which are cold, tender, cyanotic, with stiff and painful joints. The skin is smooth and may become glossy. An X-ray film taken at this time may not show any bony changes.

Usually the surgeon explains that the cast has become too tight and applies another cast. This fails to relieve the pain. In four to eight weeks the X-ray reveals the typical mottled or moth-eaten appearance of the bones of the wrist, hand and fingers. It is in this acute stage that treatment should be instituted before complete destruction of the bones has occurred.

The treatment of painful osteoporosis is prolonged and many times unsuccessful. There are no known prophylactic measures which will prevent the condition. During the past six months I have treated 5 cases involving fracture of the fifth metatarsal. All were treated exactly alike, but 4 made uneventful recoveries in 4 to 6 weeks, while the fifth patient developed Sudeck's acute bone atrophy and has been disabled for 4½ months.

Deep X-ray therapy is one of the newer methods of treatment. Four to 8 treatments of 50 to 100 roentgen units each on alternate days in some cases relieves all or most of the pain. After the pain has been relieved physiotherapy including radiant heat, diathermy, paraffin baths and massage may be instituted. If deep X-ray therapy fails, a minor surgical procedure should be done. Fontaine and Herrmann[2] state that since 1924 all cases of painful osteoporosis admitted to the clinic of Professor Leriché in Strasbourg have been treated by periarterial sympathectomy or ganglionectomy. In a personal communication, Dr. Herrmann states that the periarterial sympathectomy is the method he is now using. This consists of stripping the adventitia from the femoral or brachial artery for a distance of 1½ to 2 inches. This is a simple operation and can be done under local anesthesia.

When this condition develops in the lower extremity both Gurd and Boehler advise the application of a non-padded plaster cast and weight-bearing. The cast is applied after all edema has been gotten rid of by posture. Forceful manipulation while pain is still present is contraindicated.

Report of Case

The patient, E. F., was a white man 61 years old, whose occupation was that of a freight conductor. On July 20, 1940 his right foot was injured when a merchandise partition weighing 1½ tons fell on it. Examination revealed a contused wound on the dorsal aspect of the foot and signs of fracture of the fifth metatarsal bone. An X-ray film taken the same day confirmed the diagnosis of fracture. In addition to the local condition the patient had hypertensive heart disease with a blood pressure of 240/140. I do not believe nor can I find any reference in the literature to lead me to think that the hypertension had any relation to the ultimate outcome in this case. The patient was placed on bed rest, and wet dressings were applied to his foot for 1 week. By this time the wound was healing, and a posterior splint was applied from the toes to the knee and he was allowed to walk about on crutches.

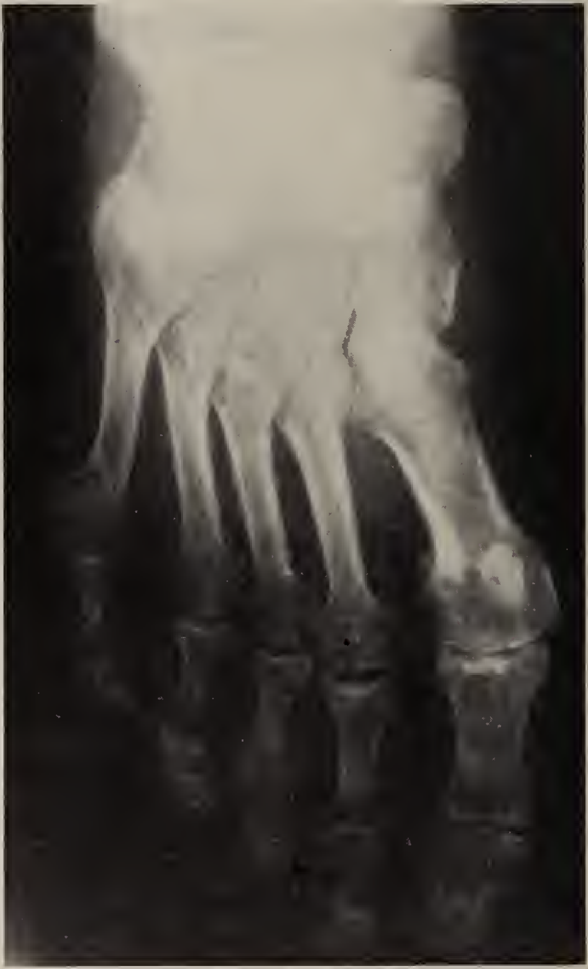

Fig. 1. Patchy atrophy of all tarsal bones, November 1, 1940, 72 days after the accident. The fracture of the fifth metatarsal bone has united.

After 4 weeks, during which time his foot was dressed

3 times weekly, he complained of knife-like pains in his foot and toes. The third and fourth toes were slightly swollen, tender and stiff, and the movements were painful. The skin was dusky and glossy. An X-ray film taken at this time, August 22, 1940, showed the fracture to be healing satisfactorily. The splint was cut down so that it supported the foot, and he was able to put on a shoe. He was encouraged to use his foot as much as possible, and physiotherapy was given.

For 8 weeks there was little change in his condition, although he was able to walk with a cane and discard his crutches. Because of the persistent pain, another X-ray film was taken on November 1, 1940. This showed the typical patchy appearance of Sudeck's bone atrophy (fig. 1).

The patient was given daily for 6 days deep X-ray therapy treatments which relieved most of his pain, but shortly after the treatments were discontinued his pains returned and were as severe as they were originally. He was given daily physiotherapy consisting of baking, massage, diathermy and whirlpool baths. These treatments also relieved the pains as long as they were given, but no permanent relief was obtained. Probably both deep X-ray therapy and physiotherapy should have been given a longer trial.

An unpadded plaster cast was tried as recommended by Gurd and Boehler, but this increased the patient's discomfort and had to be removed. At the present time, 7 months after the injury, the patient is still disabled. Because of his hypertension, periarterial sympathectomy seems contraindicated. The ultimate outcome in this particular case is still in doubt.

SUMMARY

In a very small percentage of cases acute marked osteoporosis occurs within a short time following injury. The condition may follow a slight injury and is most common in the bones of the wrist, hand, ankle and foot. The predominant symptom of Sudeck's atrophy is pain. Typical X-ray findings clinch the diagnosis. The pathology is obscure. Treatment consists of deep X-ray therapy, or periarterial sympathectomy, supplemented by physiotherapy. Recovery requires many months. A typical case of Sudeck's atrophy involving the bones of the ankle and foot has been presented.

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Two new blood bank technics are reported in '*War Medicine*.' Two important contributions aimed at solving the problems of safely collecting, storing and transporting blood plasma (the fluid portion of the blood) and the drying of blood plasma are reported in the May–June, 1941 issue of *War Medicine*, published by the American Medical Association in coöperation with the Division of Medical Sciences of the National Research Council.

One provides for a simple and safe method of collecting, storing and transporting blood plasma and the other involves the development of inexpensive equipment for drying the plasma. Both of them have wide applications in military medicine, particularly the former.

Elmer L. De Gowin, M.D., and Robert C. Hardin, M.D., Iowa City, report that they found that large glass flasks, such as are used in hospitals for the storing and administration by vein of various solutions, when equipped with a permanent rubber stopper allowing self-closing needle punctures, were eminently suitable for the collection, storage and administration of whole blood or of blood plasma. The blood is collected in the flask by use of a standard needle valve piercing the rubber closure enabling a satisfactory mixture of the blood with a preservative fluid already in the flask. They say the flask can be completely filled except for a small air bubble and that when the needle is withdrawn the puncture hole in the rubber closes and that the flask can be immersed in ice water for long periods of time without leakage.

To determine the effect of transportation on stored blood the two men say that two shipments of cans containing the flasks and properly iced were sent on automobile trips of 720 and 731 miles. Another shipment was sent by plane from Iowa City to Oakland, Calif., and back, a total distance of 3,539 miles.

All of the bloods in both tests were then transfused into hospital patients requiring such treatment and in only one instance was there any reaction out of forty transfusions, this one involving chills and fever.

The two men point out that the distances traveled in the two investigations were convenient ones which could be applied to military problems. For example, the automobile shipment of 720 miles involved a straight line trip in any state except Texas and California. In the case of the airplane transportation, the mileage exceeds any straight air distance in the United States and covers trips from this country to Alaska or to South America.

T. R. Folsom, M. S., New York, in the same issue of *War Medicine* reports the development of an effective technic for drying and reconstituting human blood plasma under completely sterile conditions. It involves the use of a unit condensor system whereby the drying of about one-half pint of plasma is accomplished in less than eighteen hours.

"The cost of equipment is unusually low," he says. "The basic cost of equipment capable of drying 10 ampules each containing 250 to 500 c.c. [from about one-half to one pint] of plasma is about $250. A larger capacity can be obtained by adding units as required."

EDITORIALS

HENRY RICHARD SCHREIBER, M.D.

Dr. Henry Richard Schreiber, seventy-fifth President of the Medical Society of the District of Columbia, took office on July 1, 1941. Dr. Schreiber is well known to the medical profession in Washington, and might be considered a native of the city were it not for the fact that he spent the first few years of his life in Lansing, Michigan, where he was born on September 15, 1884, the son of Ernst O. and Katherine Schreiber, Midwestern pioneers. He attended elementary schools in Lansing and Eastern High School in Washington. In 1907 he received his degree of Doctor of Medicine from the Georgetown University School of Medicine. It should be mentioned here that Dr. Schreiber was awarded a scholastic grant because of academic proficiency, making possible his attendance at Georgetown University.

After interning at Children's and Garfield Memorial Hospital, Dr. Schreiber continued his training at the Lying-In Hospital in New York City. Upon completion of his postgraduate work he returned to Washington, where he has since been engaged in the private practice of medicine, limiting his practice to internal medicine.

Dr. Schreiber is Professor of Clinical Medicine at Georgetown University School of Medicine and Chief of the Medical Staff at Providence Hospital. Notwithstanding his heavy responsibilities, he has given generously of his time to the examination of selectees. He is at present serving with an examining unit at Georgetown Hospital, where his wise counsel and temperate judgment have proved extremely valuable.

Dr. Schreiber was married in 1912 to Irene Virginia Dearborn of Alexandria, Virginia. They have three children, Margaret Dearborn, Henry Richard, Jr., and Mary Alice Schreiber.

Known to his many friends as a serious practitioner who devotes little time to outside activities, Dr. Schreiber has frequently availed himself of the opportunity of widening his medical knowledge. He has done special work at Johns Hopkins Hospital, Peter Bent Brigham Hospital, and the Massachusetts General Hospital.

It is not meant to suggest that Dr. Schreiber has no avocation. As a matter of fact, he is somewhat of a horticulturist, having a summer place in Bethesda, Maryland, which, because of its easy accessibility, permits him to enjoy its privacy at infrequent intervals. Here he takes active interest in flowers, plants and shrubs, to which he gives his personal attention. Primarily, however, he is sincerely interested in people, who respond to his always thoughtful and considerate nature. The Society is fortunate in having him as its leader during times when common sense and tolerance are so essential.

HENRY RICHARD SCHREIBER, M.D.

President, The Medical Society of the District of Columbia, 1941—1942

A REALISTIC APPROACH

On numerous occasions reference has been made in these columns to the social and economic trend and its probable effect upon the practice of medicine. It has been pointed out that no one can predict with certainty what changes will occur. However, there are some problems with which we know medicine will have to cope.

For example, the high percentage of rejections of Selective Service registrants was commented on in the June issue of the MEDICAL ANNALS. Disclosure of the unfitness of many of our young men will undoubtedly result in a much wider application of public health measures.

It is safe to prophesy that efforts to improve the health of the people will not diminish following our gigantic defense effort. On the contrary, economic conditions will undoubtedly be such that the Government will be called upon to assume greater responsibility for the welfare of the people.

If these conclusions are correct, and students of public affairs seem to be in general agreement that they are, the medical profession cannot remain indifferent. It must make a realistic approach to the health needs of the people.

The first and the most important step is to make the benefits of preventive medicine available to all. One phase of such a program which should receive the immediate attention of the Medical Society of the District of Columbia relates to periodic physical examinations. There is nothing new about this proposal. In fact, medical organizations as well as individual practitioners in various parts of the country have frequently endeavored to interest the profession and the public in periodic examinations. For one reason or another these efforts have not been successful. The difficulty seems to lie in the fact that a sound plan has not been conceived and that there has not been continuity of effort.

In its essentials the plan proposed for the District would incorporate the following features:

I. EDUCATION OF THE MEDICAL PROFESSION. Too many practitioners still look upon periodic examinations as unnecessary. They feel that knowing their patients they do not need to make a thorough investigation. They are also prone to look upon the person who is apparently healthy as not in need of medical attention. In view of this situation, the interest of the doctor must be stimulated by means of lectures, demonstrations and literature. Furthermore, examinations must be standardized, minimum requirements being emphasized. Examination forms, too, should also be developed.

While it is desirable that these examinations be done in the doctors' offices, it might be found necessary to establish clinics in hospitals for persons of limited means.

II. EDUCATION OF THE PUBLIC. There are physicians who feel that it will require as great an effort to interest the profession as it will the public. However, the latter task is no small undertaking. It will require the coöperation of every physician, health organization and civic group in the District. The importance of periodic examinations will also have to be publicized through newspapers and other publications.

This program may well constitute the Medical Society's major project in the coming year. There will, of course, be objections raised by some physicians to this undertaking on the basis of its value, the difficulty of accomplishment, and the possible regimentation of the profession. On the other hand, it is quite apparent that if the profession does not assume the responsibility for this task, it is only a matter of time until some government agency will do so.

PERTINENT PARAGRAPHS

June Meetings

Due to the fact that officers and members of the Medical Society were in attendance at the annual meeting of the American Medical Association in Cleveland, there were few meetings of boards and committees during the month of June. A list of those held follows.

June 11	Committee on Military Affairs
June 23	Subcommittee on Military Exhibit, Annual Scientific Assembly
June 24	Subcommittee on Public Meeting, A. S. A.
June 26	Subcommittee on Scientific Exhibit, A. S. A.
June 27	Committee on Arrangements, A. S. A.
June 30	Executive Board

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Congress Needs Relaxation

In a recent interview, Dr George W. Calver, Congressional physician, declared that members of Congress suffer from "overwork and overstrain." He pointed out that the lawmakers had been in almost continuous session for nearly three years and were greatly in need of relaxation. He recommended walking and "nine holes of golf" as an antidote to national defense, convoys, taxes and other legislative worries.

Dr. Calver reported that in the first four months of this year he had received nearly 4,000 calls from members of Congress and Capitol employees. This is about 60 per cent more than in the same period of time in 1940. He was quoted as saying that the public should be interested in seeing that Senators and Representatives get some time to relax "because if they can get away for a while, they will do a better job."

Dr. Calver said the average mortality age of 66.1 years for members of Congress had remained nearly constant for 10 years. Six Senators and 28 Representatives have died in the past three years. This death rate, according to Dr. Calver, is about one-ninth of the average public rate.

"A Pain in the Neck"

An article* taking the medical profession to task for its attitude toward publicity appeared in the newspaper *PM* on April 23. Ben Hecht describes his experiences with New York doctors as follows:

"One of the most depressing things about doctors good and bad, big and little, is that they won't talk for publication.

"If you are running down a story with a medical angle, and you finally locate the medico involved and ask him for the information he holds, he will turn on you an attitude equally mixed of alarm and distaste. He will, under pressure, pursue one of three courses. (Mind you, I am talking about a doctor who has done nothing reprehensible whatsoever. To the contrary his participation in the tale you seek is usually little short of noble.)

"Under questioning, our medical hero will stiffen in his tracks like a doormat thief trapped on a fire escape and fall into a maddening silence; or he will reveal the facts you are hunting only after you have sworn on your mother's head not to use his name or in any way hint at his identity; or, thirdly, he will refer you to Dr. Iago Galdston of the New York Academy of Medicine.

"Dr. Galdston alone can unseal his lips. If the doctor says it's all right for him to talk and give his full name then your medical source will come furtively out of his gopher hole, scan the horizon like a Fennimore Cooper Indian, and oblige with some sign language.

"Some of my best friends are doctors, and they have explained to me that their reticence is for the good of the profession. I take it their theory is that if Dr. Galdston took the medical muzzle off, many of his charges would start gabbling away like so many geese, and fill the newspapers with unseemly and dubious information. Still others might take advantage of this free speech to call themselves to the attention of the public by tales of their learning and triumphs. This would come under the twin cardinal sin of advertising and publicity seeking.

"The true scientist, who is theoretically a shy fellow, would then find himself elbowed out of the limelight by all manner of noisy inferiors. Rather than let this horrid thing happen, the doctors submit themselves to a censorship that keeps them all equally obscure. They are permitted to speak only to one another, or through

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> the properly knighted channels of medical information.
>
> "All this high falutin' ethical reticence is thus based on a distrust of each other felt by the entire profession, a distrust which may or may not be well founded. There is also possibly the deeper motive that the less the baffled layman knows about anything the more mysterious and important it becomes to him. This sort of mumbo jumbo reticence has been always the stock in trade of medicine men whether they cured by burying your fingernail parings in the full light of the moon or by administering doses of sulphanilamide.
>
> "The good doctors today may suffer a bit from the clothespin attached to their lips, but they are doubly rewarded. No other good doctor can fish for patients by resorting to publicity; and all doctors get themselves willy nilly clothed in a sort of high class silence that leaves the public fancying them as being full of uncommunicative wizardry.
>
> "It is only natural, however, that the reporter in search of legitimate data should consider all these priestly posturings as a pain in the neck."

Perhaps so, but it would take a lot of argument to convince physicians of the soundness of Mr. Hecht's theory. The truth of the matter is that the safeguards which have been placed around medical publicity are as great protection to the public as to the medical profession.

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Nutrition and the Public Health

One of the most enlightening addresses made at the National Nutrition Conference for Defense, held in Washington, May 26, 27 and 28, was that given by Dr. Russell M. Wilder, Professor of Medicine, The Mayo Foundation, Rochester, Minnesota, who spoke on "Mobilizing for Better Nutrition." In commenting on the physician's interest in this subject Dr. Wilder said:

> "In considering the total problem of nutrition, there has been criticism of the physicians as well as by the physician. The scientists who, for 20 years or more, have studied nutrition in animals have indulged quite frequently in caustic comment on the failure of the medical profession to come to grips with malnutrition.
>
> "Practicing physicians, by and large, have been slow to act on the developments in the nutrition field. I wish to take this occasion to explain this conservatism.
>
> "The past forty years and more have been a period of dramatic achievement in many fields of medical science and of marked success in the control of diseases caused by bacteria and related organisms. The accomplishment of the average physician, in the complexity of human pathology, is highly creditable. Few persons not trained in biology are even dimly conscious of the difficulties involved in the accurate diagnosis of disease.
>
> "Nor has the physician failed, except in nutrition, to recognize the predominant significance of preventive medicine. He has given freely of his time to the campaigns which have been waged with marked success against tuberculosis, syphilis, and maternal ill health. His efforts usually have been made on a purely voluntary basis. Most of the legislation to which we owe that magnificent organization, headed now by Doctor Parran, the U. S. Public Health Service, has come about as a result of insistence by physicians. This is equally true of the fine collateral departments of public health in our several states.
>
> "The medical profession has not been tardy, either—as workers in nutrition have sometimes thought—in granting early recognition to the new in science. Salvarsan was introduced in 1910, and by 1912 was in general use for the treatment of syphilis; insulin was discovered in 1921 and by 1923 was employed the world over. The value of the sulfapyridine was recognized in 1938, and patients with pneumonia received its benefit almost immediately.
>
> "Fundamental knowledge in the science of nutrition is of very recent origin—in fact, it is still being sought on a dozen research fronts. Many physicians received their academic education before scientific nutrition had accumulated the body of fact which today seems so important. Moreover, the earlier investigations were made in scientific fields whose relation with medicine was not so clearly recognized as it is today. These important contributions were published in journals which the average physician did not read, and became embalmed—so to speak—in the scientific literature."

Physicians need not be told that the present situation demands that the medical profession take an active interest in nutritional problems. This important factor in public health should receive the immediate attention of all practitioners.

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Medicine's New Leader

The elevation of Dr. Frank Howard Lahey, of Boston, to the Presidency of the American Medical Association will be welcomed by thousands of physicians throughout this country. Dr. Lahey is known as one of the great physicians of his time. He is not only a skillful surgeon but a leader in medical thought. One observes with considerable satisfaction that there is no attempt on his part to evade unpleasant facts. He recognizes the failings of organized medicine as well as its virtues. Criticism of the medical profession does not perturb him. On the contrary, he has frequently pointed out that the profession should weigh its merits and where possible profit by it.

As President of the American Medical Association, Dr. Lahey will have a great influence. There have been few physicians in this country's history who have had an opportunity to be of greater service to the profession and the public. It is the belief of the majority of physicians that Dr. Lahey will more than live up to his responsibilities.

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A Tribute to George Crownhart

Although the full-time lay secretary of a medical society is a comparatively new figure, a number of medical organizations have employed such executives in recent years. Some of them have rendered outstanding service to their organizations. None was abler than Mr. J. George Crownhart, Secretary of the State Medical Society of Wisconsin. Mr. Crownhart, who had served his Society since 1923, was a man of keen intelligence, great ability, and tireless energy. His untimely death at Cleveland during the sessions of the American Medical Association was a great shock to the thousands of physicians and laymen who knew him well. Few men will be missed as much as George. In fact, no one can take his place. His niche in his chosen field of activity is secure.

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Committees for 1941–42

It has seemed that with each succeeding year more momentous events have been in the offing. Certainly no one in the Medical Society can look forward to the coming organization year without the feeling that those who carry the burden of leadership will be taxed as few of their predecessors have been.

As usual, new committees have been appointed for the ensuing year. A list of their personnel will be found on page 282.

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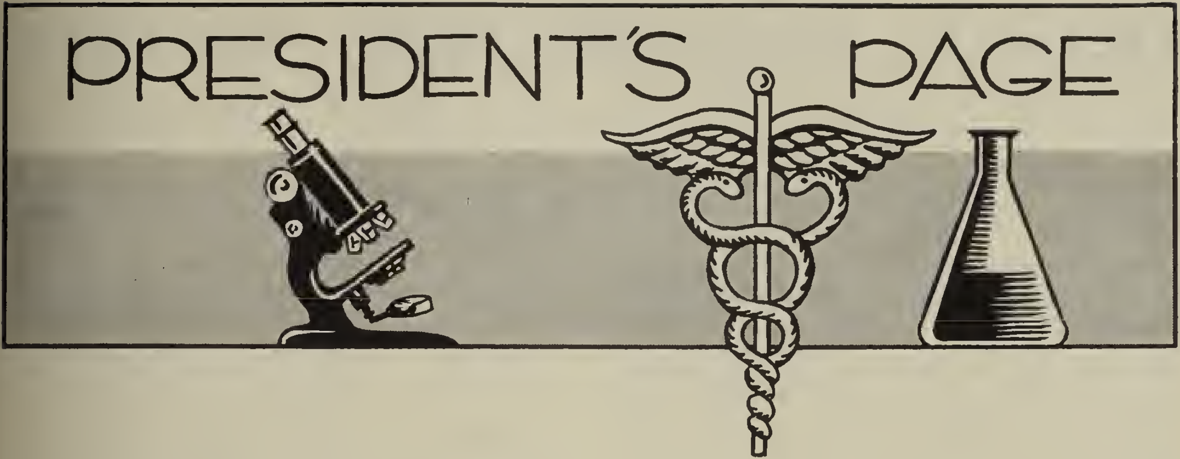
San Francisco Physicians Lodge Protest

Apparently everything is not going so smoothly in San Francisco where it is reported that hundreds of physicians have resigned in protest from the Municipal Employes' Health Service System. The following account of the action of the physicians appeared in the *San Francisco Examiner* on March 28 and was subsequently published in *Minnesota Medicine:*

> "San Francisco physicians began resigning from the Municipal Employes' Health Service System by hundreds yesterday in protest against the 'capricious and arbitrary actions' of the system's board of directors.
>
> "Simultaneously, the board heaped new fuel on the fire by failing to approve the January fees to physicians serving the system—the failure resulting from the fact that only three out of eight directors responded to President Cameron King's summons to a special meeting to act on the matter.
>
> "The wholesale resignations which poured in throughout yesterday protested specifically the board's failure to keep its promise to effect a new system of fees. They were conditional resignations, but were submitted with the understanding that they would become final if the board failed to get the new schedule into action within 'a reasonable time.'
>
> "The County Medical Society had suggested that the physicians employ this means of acquainting the board with their determination to procure action, and the hearty response brought this comment last night from Dr. L. Henry Garland, society secretary:
>
> " 'This tremendous flood of conditional resignations received within thirty-six hours after the society suggested this form of protest is proof the doctors serving the system are completely out of patience with the board's capricious and arbitrary actions.
>
> " 'The board's actions themselves are proof of what is to be expected when health insurance is made compulsory and turned over to politicians.' "

PRESIDENT'S PAGE



YEAR BEGINS WITH EMPHASIS ON DEFENSE

As I assume the office of President of the Medical Society of the District of Columbia, I am keenly aware of the extraordinary demands which will be made upon our organization in the coming year in connection with the National Defense Program. It has been my privilege to serve with a group of examining physicians in one of our local hospitals. I therefore have learned at first hand what an important contribution our members are making to the country's security. As time goes on, greater numbers of physicians in the District will be asked to participate, so that the burden will not fall too heavily upon a few. I hope that those who have not done so will read the communication sent them recently by the Committee on Military Affairs. It reveals a situation with which every one of us should be familiar.

There are a number of important projects which are under consideration for the coming year. One of them relates to expansion of the Society's public health program. Although details remain to be worked out, the program should be announced within a very short time. I am hoping that there will not be a single physician who will fail to take an interest in it and coöperate in every way possible.

You may be assured that I sense the heavy responsibilities which rest upon the President of the Society in these times. While I shall give the best of which I am capable, this in itself will not be sufficient. Wholehearted support of the membership is essential. I feel certain that I can count upon all our members to do their part.

Henry R. Schreiber

MEDICAL PREPAREDNESS SECTION

According to a report presented to the House of Delegates of the American Medical Association at Cleveland, 156,979 physicians out of 182,843 have returned the questionnaires sent them by the Committee on Medical Preparedness. Unreturned questionnaires total 25,864. Four hundred and eighteen physicians in the District of Columbia have still not returned the forms sent them. This latter figure is to be regretted and every effort is being made to have physicians who have not done so forward their forms to the Committee at Chicago.

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Dr. Daniel L. Borden, retiring President of the Medical Society of the District of Columbia, entered upon his military duties as chief surgeon of the new 1,000-bed hospital at Fort George G. Meade, Maryland on July 1.

Dr. Borden, who served overseas during the previous World War, has completed twenty-nine years' teaching at George Washington University School of Medicine where he has been Professor of Clinical Surgery. During the last war, Dr. Borden served as First Lieutenant, Captain and Major at Walter Reed General Hospital, Camp Taylor, Kentucky, and in France. Overseas he was chief surgeon of Evacuation Hospital 18, and saw active service with the 2nd Division and with French troops.

Dr. Borden was President of the Medical Society of the District of Columbia during one of its most momentous years. Several innovations in the Society's program can be credited to him. During the legal proceedings involving the Society he was in constant attendance. In every respect it can be said of him that he has been a conscientious and an able leader of the local medical profession.

Dr. Borden is residing at his home in Washington during his tour of duty.

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The following physicians have been recommended by the Committee on Military Affairs for appointment to Selective Service boards in the District of Columbia:

Examining Physicians:	
District No. 1	Robert J. Coffey
District No. 2	O. Hugh Fulcher
District No. 6	Howard H. Strine
	Benjamin Golden
District No. 7	Paul N. Taylor
	Charles P. Ryland
District No. 8	Frederick C. Fishback
	Michael P. DeVito
	William D. Terrell
District No. 9	Richard L. Jackson
	John E. Hanby
District No. 11	Benjamin Manchester
District No. 13	C. Edwin McNamara
	S. Hazen Shea
	George P. Lemeshewsky
District No. 14	Charles R. L. Halley
	George R. Huffman
	Leland E. Stevenson
District No. 15	John U. Schwarzmann
Medical Advisory Board (A):	
Orthopedist	Julius J. Radice
	Julius S. Neviaser
Dermatologist	Lawrence B. McCaleb
	Alvin E. Wode
Surgeon	J. Ogle Warfield
	J. Lloyd Collins
Urologist	Norvell Belt
	Frederick A. Reuter
Medical Advisory Board (B):	
Orthopedist	Phillip T. Johnson*
Medical Advisory Board (C):	
Otolaryngologist	David Davis
	Joel N. Novick

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The following communication was recently sent to members of the Society. It is reprinted here for the reason that the Committee on Military Affairs is anxious that all members of the Society be familiar with its contents.

"During the past nine months approximately 280 members of the Medical Society of the District of Columbia have served on Selective Service boards. Most of these physicians have given faithful service and are deserving of the highest commendation. In numerous instances they have continued their work on local draft boards at considerable sacrifice. To all who have so generously given of their time, our country owes a debt of gratitude. Your Committee also wishes to express its appreciation.

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* Recommended by the Medico-Chirurgical Society, Inc., of Washington.

"Last October when the Society was first called upon to provide physicians for Selective Service boards, a canvass was made for volunteers. Two hundred and seventy-five agreed to serve. Considering the need at that time, the response was adequate. On two subsequent occasions appeals were again made. The number volunteering was much less and did not meet the demand. As there was urgent need for additional examining physicians, and a way had to be found to relieve those who had been serving two or three nights a week for several months and to replace those who had been ordered to active military duty, the Committee, after considerable deliberation, decided to recommend the appointment of physicians, regardless of whether they had volunteered.

"The Committee is anxious that all members know these circumstances and that they be familiar with the manner in which appointments are made. Names of physicians recommended by the Committee for appointment to Selective Service boards are sent to General Albert L. Cox, Director of Selective Service for the District of Columbia, who in turn submits them to the President of the United States for confirmation. Under these circumstances physicians are not notified by the Society of their selection, because the power to appoint does not rest with it.

"It is realized that circumstances may exist which make it difficult for some physicians to assist with the Selective Service program. However, this should be the exception rather than the rule. Your Committee calls upon all physicians in the District of Columbia to accept the responsibilities assigned to them. Where this is not possible, Col. A. Clagett Gray, State Medical Officer for the Selective Service System in the District, should be informed of the reasons for inability to serve. It should be unnecessary to emphasize the urgency of the present situation and the need for 'all-out' coöperation by the medical profession."

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On June 26, in the presence of about 1,500 persons, Major General James Carre Magee, Surgeon General of the United States Army, formally dedicated the cornerstone of Hoff Hall, the new academic building of the Medical Field Service School at Carlisle Barracks, Pennsylvania.

The Medical Field Service School is maintained by the United States Army for the training of officers in the Medical Department in connection with service in the field. The students are drawn from the three components of the Army of the United States, the Regular Army, the National Guard and the Reserve Corps.

In his dedicatory address General Magee made the following remarks:

"There is a great difference between a physician, dentist or veterinarian in uniform and an officer of the Medical Department of the Army. Merely to don the garb of a soldier does not make a man one. Even the most skilled practitioner, the most profound man of medical science, the most able hospital administrator does not know what he will have to know in order to become a valuable officer, without special technical training. That training the Medical Field Service School affords.

"Here he learns how to play his part in the intricate and highly specialized thing that is modern war. Medical units form integral parts of fighting regiments and must know not only their own particular functions, but understand much of the working of the whole. The adage about the chain being no stronger than its weakest link is as true in the military service as elsewhere, and perhaps more so."

The completion of Hoff Hall is believed by medical and military officers to be an important step in the advancement of military medical science. The building is named for Colonel John Van Rensselaer Hoff, a distinguished Army medical officer of the State of New York who was one of the pioneers in the training of enlisted men for the Medical Department.

NEWS AND PERSONALS

The International College of Surgeons will convene for its Fifth International Assembly in Mexico City, August 10–14, 1941, in response to an invitation from the Mexican Government. Scientific exhibits will show the latest advances in surgery and commercial exhibitors will demonstrate the newest equipment.

Surgeons in the United States desiring information about the presentation of papers or scientific exhibits are requested to address Dr. Desiderio Roman, Chairman of the Scientific Committee, 250 South 17th Street, Philadelphia. Travel information may be secured by communicating with Dr. Max Thorek, Executive Secretary, 850 West Irving Park Boulevard, Chicago.

The 20th Annual Scientific and Clinical Session of the American Congress of Physical Therapy will be held in Washington at the Mayflower Hotel, September 1 to 5. All phases of physical medicine will be discussed in the general program, including a special symposium on poliomyelitis. The sessions have been arranged to interest the general practitioner as well as the specialist in physical therapy. Further information may be obtained from the

American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

The American Occupational Therapy Association will hold its 25th annual meeting in conjunction with the American Congress of Physical Therapy. Mrs. Meta R. Cobb, 175 Fifth Avenue, New York, will be glad to furnish details concerning this meeting.

The Resident Medical Staff of Garfield Memorial Hospital were guests of honor at a luncheon given by the Superintendent, F. J. Eisenman, and members of the Attending Medical Staff on June 18. Dr. A. B. Bennett, President of the Association of Former House Officers, acted as toastmaster. Dr. Joseph B. Bogan gave an address entitled, "An Ode to Interns." Certificates were presented by the President of the Medical Staff, Dr. H. C. Macatee, to the following: Drs. Forbes H. Burgess, Joseph W. Chinn, Philip S. Kline, John W. Latimer, Robert W. Maher, Louis H. Moody, Thomas H. Weaver, James L. Wells, Ralph D. Whitley, Uthai V. Wilcox, Andrew J. Welebir, Frank A. Jenkins, Clifford W. Lewis, Van A. Odle, Richard O. Emmons, John O. Schreiber, Ernest Gould, George Macatee, Blanche W. Nimetz, Ralph W. Morton and Alfred Den.

The Dean of George Washington University School of Medicine announces that the school will continue its regular course through the summer for about 40 per cent of the incoming senior class, which will permit them to graduate in February of 1942. This action has been taken as a result of the recommendation of the Executive Committee of the Association of American Medical Colleges in the interests of national defense.

Dr. J. Winthrop Peabody was elected President-elect of the American College of Chest Physicians during the annual meeting of the College, held in Cleveland, May 31 to June 2. Dr. Peabody is Professor of Respiratory Diseases at Georgetown University School of Medicine, Chief Visiting Consultant at Glenn Dale Sanitarium, President of the District of Columbia Tuberculosis Association, and a member of the Board of Directors of the National Tuberculosis Association. The American College of Chest Physicians is an international organization with a membership of over 1,000. Dr. Peabody will assume office in 1942.

Dr. William Thornwall Davis, Professor of Ophthalmology at George Washington University School of Medicine, and **Mr. Samuel Hilton,** past President of the American Pharmaceutical Association, were among the distinguished graduates of George Washington University to receive Alumni Achievement Awards at the graduation exercises June 11. They were honored at a reception June 6 immediately following the annual meeting of the General Alumni Association.

Freedmen's Hospital was presented with a premature birth station on June 20, consisting of six incubators, a resuscitator, and a portable ambulance incubator. The donor, Mr. A. E. Lichtman, chain motion picture theatre operator, presented the gift personally and it was accepted by Dr. T. Edward Jones, Director in Chief of the Hospital. Dr. Ella Oppenheimer, Director of the Division of Maternal and Infant Welfare, District Health Department, participated in the dedicatory exercises.

Dr. Walter A. Bloedorn addressed the 22nd Annual Meeting of the Association of Former Interns of Freedmen's Hospital on June 12. The subject of his address was "Fevers of Uncertain Origin."

Dr. Robert H. Harmon was reëlected President and **Dr. William Earl Clark** was elected Vice President representing the School of Medicine, at the annual meeting of the General Alumni Association of George Washington University on June 6.

Dr. James A. Gannon was reappointed to membership on the Board of Education for a three-year term, expiring June 30, 1944, according to an announcement made June 3 by Chief Justice Alfred A. Wheat, United States District Court.

Dr. Philip Caulfield has been appointed by the President, Dr. Henry R. Schreiber, as liaison officer to coöperate with the American Red Cross.

Dr. Edwin R. Gookin was appointed a member of the Committee of Awards for Meritorious Service, Police and Fire Departments, on June 4, to fill the vacancy caused by the death of Henry C. Stein.

THOMAS ASH CLAYTOR, M.D.

(1869–1941)

Dr. Thomas Ash Claytor, a Life Member of the Medical Society of the District of Columbia, died June 4, 1941 in Garfield Hospital, following a brief illness. He resided at 1826 R Street, N. W.

Dr. Claytor was born July 14, 1869, at West River, Maryland. After completing his college preparatory work at Episcopal High School in Alexandria, he attended the University of Pennsylvania, receiving his degree in medicine in 1891. He served his internship at the Germantown Hospital in Philadelphia and later was resident physician at the Pennsylvania Hospital.

In 1894 Dr. Claytor began his private practice in the District of Columbia, specializing in internal medicine. He was appointed Professor of Clinical Medicine at Columbian College, now George Washington University, in 1898, and from 1903 to 1909 was also Professor of Materia Medica and Therapeutics.

During the Spanish-American War he served in the Army Medical Corps as acting assistant surgeon under Major William Cline Borden, former Dean of George Washington University School of Medicine. He also served during the World War at Camp Lee, Virginia, as special examiner of cardiac cases. Later he became medical examiner on the Advisory Board of the Selective Service unit which met at Garfield Hospital, and consultant in internal medicine at the Veterans' Diagnostic Center, Mount Alto Hospital. For many years he attended Chief Justice Taft and Justice Oliver Wendell Holmes, both of whom were his close friends.

He became a member of the Medical Association of the District of Columbia in 1895 and a member of the Medical Society the same year. He was a Fellow of the American Medical Association, and a member of the American Climatological and Clinical Society, the Clinico-Pathological Society, the Chevy Chase and Metropolitan Clubs.

Surviving are his wife, Mrs. Helen Niernsee Claytor; a daughter, Louise N. Claytor, of Washington; a son, Richard Claytor, of Penllyn, Pa.; and a sister, Miss Annie C. Claytor, of Annapolis, Md.

WILLIAM HENRY SYME, M.D.

(1871–1941)

Dr. William Henry Syme, an Associate Member of the Medical Society of the District of Columbia, died June 6, 1941, at the home of his sister in Hendersonville, North Carolina.

Dr. Syme was born in Lewisburg, West Virginia, January 31, 1871, the son of Col. Samuel A. and Mary Hunt Syme. He was educated in the District public schools and received his degree in medicine from Columbian College, now George Washington University, in 1904. Following his internship at Columbia Hospital for Women and Bellevue Hospital, New York, he began his practice in the District in 1906. He continued his studies in Paris and Berlin, and became an authority on the operation for tic douloureux, an affliction from which his father suffered and which had early aroused his interest.

Dr. Syme was elected to Active Membership in the Medical Society of the District of Columbia in 1908. He transferred to Associate Membership in 1932 when he retired from practice. The next few years he lived in Hendersonville, North Carolina and Cocoa, Florida, returning to Washington in 1938, where he resided at 2301 Calvert Street, N. W.

Dr. Syme is survived by one brother, Conrad Hunt Syme of Washington, and three sisters, Mrs. Eliza Whitehead, also of Washington, Miss Jane Grey Syme of Hendersonville, North Carolina, and Mrs. Henry Wardell Pratt of Columbia, South Carolina.

(*Continued from page 263*)

7. Cooke, H. H.: Traumatic rupture of intestines caused by automobile accidents. Ann. Surg., 1932, **96**, 321.
8. Vergoz, C., Homar and Ricard: Des zones vulnérables du grêle dans les traumatismes fermes de l'abdomen. Presse méd., 1935, **43**, 981.
9. Lurje, A.: Duodenal ruptures. Arch. Surg., 1938, **37**, 808.
10. Christopher, F.:. Rupture of jejunum due to football injury. Am. J. Surg., 1934, **25**, 341.

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1941–1942

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MEDICAL ANNALS
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DISTRICT OF COLUMBIA

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NEW TREATMENT AND PUBLIC HEALTH CONCEPTS OF TUBERCULOSIS*

FRANK WALTON BURGE, M.D., F.A.C.P.
Philadelphia

We are all interested in that which is new, even if it concerns the other fellow's specialty. We are bored by detail, however, in that which we ourselves do not have to perform. Therefore, an effort will be made to avoid detail in a talk that includes both the modus operandi of your necessary participation in tuberculosis eradication and a brief discussion of a relatively new method of treating tuberculosis, which you need to know something about because it has been found of value and is being used in widespread parts of this and foreign countries.

PNEUMOPERITONEUM TREATMENT

All doctors who even occasionally professionally contact a case of tuberculosis need to know some of the facts concerning pneumoperitoneum treatment of tuberculosis, because it constitutes one more important method to add to the other mechanical aids to cure. It is especially important in that it can be used in some cases in which no other form of mechanical assistance can be given. For example, it can be employed in the aged dyspneic individual in whom pneumothorax would place too great a burden on the heart, and in the advanced case of tuberculosis of both lungs in which there is dyspnea even at rest.

The technic of the pneumoperitoneum procedure is very simple. Air or other gas is injected into the peritoneum by the same technic used in giving pneumothorax. Refills are given at intervals, first of a week, with increasing interval as time goes on, to as long as a month.

The physical advantages of the procedure are (1) the raising of the diaphragm with relaxation therefrom of the whole lung structure, and (2) the separation by a cushion of air of the diaphragm from the liver, spleen and other abdominal contents, so that breathing and efficient cough are accomplished with much less effort. One must realize that man was planned to walk on "all fours" and in that position the abdominal viscera, suspended from the spine at the level of the diaphragm, swing as a pendulum to assist breathing and coughing, but when man assumed the erect posture this same weight became a drag on respiration and cough.

Immediately after the first pneumoperitoneum treatment, the patient always notices that respiration, cough and expectoration are made easier, with a great saving of effort.

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* Read before the Society, January 29, 1941.

The procedure is a useful treatment in the following conditions:

1. Tuberculosis of the intestines, mesentery and peritoneum;
2. Advanced bilateral pulmonary tuberculosis;
3. Pulmonary tuberculosis in which pneumothorax is indicated but impossible or ineffectual due to pleural adhesions or pleural space obliteration;
4. Pulmonary tuberculosis with associated right-sided heart insufficiency;
5. Tuberculosis treated by bilateral pneumothorax, especially in those cases developing right-sided heart weakness.

The results of pneumoperitoneum treatment are:

1. Frequent closure of cavities;
2. Frequent changing of positive sputum cases to negative (two thirds of the positive sputum cases we have treated have been converted to negative in spite of the fact that, by and large, our sickest patients have recieved this form of treatment);
3. Improvement systemically in those cases in which cavity closure and sputum conversion have not occurred (the effect has been so beneficial that a number of cases have been built up from a condition in which they could not be operated upon into one of first class surgical risk for thoracoplasty);
4. Increase in elevation of the paralyzed hemidiaphragm in cases in which this ascent is not sufficient to close a cavity;
5. Freeing of the bronchial tree of retained toxic secretion by increasing the mobility of the diaphragm under cough and thus reducing the toxemia of the patient;
6. Cessation promptly of vomiting, pain and fever caused by tuberculous peritonitis.

There are no known contraindications. Even the patient with terminal tuberculosis is made more comfortable by the judicious use of pneumoperitoneum. By "judicious" is meant the use of just enough gas to cushion the diaphragm. This is the only procedure which, until it has been tried, enables one always to say that "while there is life, there is hope" in the very advanced case.

Complications should be none in the hands of the trained pneumothorax worker. Air embolism is a possibility when the operator is not so experienced.

A Program for Eradication of Tuberculosis

Now, in this tuberculosis potpourri, let us leave this new treatment of the disease of the tuberculous individual and consider the new organizations in which the interest of doctors is necessary to eradicate tuberculosis.

First, every county, state and municipal medical society needs a tuberculosis committee. The committee is useful in arranging for tuberculosis presentations in the regular medical meetings, for keeping the medical society informed on the conditions of the public tuberculosis sanatoriums within the area of the society, and with the needs of the sanatoriums. The committee also should inform itself of the use of the charity tuberculosis dollar in the community, and the medical society should be led to take an interest in the financial report of the tuberculosis organizations handling that charity dollar.

The wise employment of the charity tuberculosis dollar is a sacred trust. Wise employment of it will help eradicate tuberculosis. Enough of charity funds should be spent on payroll to employ a secretary who understands how to get coöperation of the most heavily infected groups of the public, the heavy labor and underprivileged groups, in the case-finding program. The remainder of the money should be spent in the case-finding program. It must be said over and over by such committees of doctors that education of the public will never eradicate tuberculosis. Finding cases early is the only means of eradication of tuberculosis.

and, incidentally, is more educational than any amount of talk. The minute a family knows it contains a case of tuberculosis, there is immediately real interest in the disease, but until then, spellbinders leave it cold and indifferent.

Bovine tuberculosis was eliminated by tuberculin testing and removal of the infected animals from the herd. Talk to the farmer would never have done it in a million years. I wrote years ago that case-finding was useless without proper case treatment. This I have since repudiated. The identification of an individual as an infectious tuberculosis patient usually immediately limits the danger of that infector to the family and other contacts.

The members of the medical society tuberculosis committee should be selected with great care. They should be well informed on tuberculosis matters and should be fearless. It requires courage to speak the truth at all times about public health tuberculosis institutions and about organizations handling the charity tuberculosis dollars. Both of these kinds of organization do a better job, on the average, when they are subject to accurate public scrutiny and both of them often become rundown and ineffectual if the interest of the medical profession in them is allowed to lapse. But both public health and charity organizations have a tendency to resent what they consider outside interference when they have something to hide and a tendency to seek revenge on the individuals who publicize the shortcomings of their organizations. Therefore, the members of the tuberculosis committee require courage most.

THE TUBERCULOSIS SECTION

There is another new organization needed by every large medical society. That is the tuberculosis section. The tuberculosis section of a medical society has just one function—to bring the general practitioners of the community into active participation in the tuberculosis case-finding program and to furnish them with all possible useful knowledge concerning the modern treatment of the disease.

The Tuberculosis Section of the Philadelphia County Medical Society was started as an experiment last year. Prior to that time it was acknowledged by almost every community in the United States that, first, the family doctors were the most important factor in the eradication of tuberculosis; second, they were not being reached successfully; and, third, they would not come to a tuberculosis meeting in sufficient numbers to get enthused with any plan of tuberculosis eradication and without their help any plan is doomed to failure. More and more tuberculosis authorities leaned to political tuberculosis medicine as the answer to the problem of tuberculosis eradication. The Tuberculosis Section was formed in an endeavor to stem this tide.

The first year's efforts were built around the spreading of the Tuberculosis Gospel,"A sputum examination for tuberculosis on every case of chronic expectoration from cough and an X-ray of the lungs for every case that has a cough over three weeks." Information was disseminated concerning the free examination of sputum for the poor by the Health Department of the city of Philadelphia and that every police station in Philadelphia keeps sputum bottles on hand for the doctor to hand his poor patient, that the patient uses the bottle and then returns it to any Philadelphia police station, and that the bottle is sent to the city laboratory and the report sent to the doctor and to no one else!

Many of the foremost X-ray specialists of the city of Philadelphia gave their enthusiastic support to the Family X-ray Survey Plan, whereby at a moderate cost they would make a single film X-ray of the lungs of each member of a family when a case of tuberculosis was found therein.

The meetings of the Section were informal. A very popular beverage was served before, during and after the meeting, and a late supper following it. Doctors were encouraged to bring in their patients' X-ray films or histories for discussion. The round table plan was followed. The number present at the meetings varied from 40 to 110. Everyone became acquainted with everyone else. Friends were made, and not a few for the Philadelphia County Medical Society.

This year we are holding only three meetings in the County Society building, but numerous meetings in the outlying branch and neighboring societies. The first was centered around the early diagnosis of tuberculosis. The special theme for this year, however, is the tuberculin testing of infants and children up to school age. This is very easy to do, since the Vollmer patch test has been shown to be satisfactory, no dilutions being necessary and no painful procedure being required with severe reactions afterward. Application of the patch is as simple as sticking on any piece of adhesive plaster, except that the spot must be rubbed with ether first to remove grease from the area. The patch is left on for 2 days, then removed at home; and 2 days after it is removed (that is, 4 days after it was applied) the family physician inspects the area. If the test is positive, two little spots of an eruption resembling "prickly heat" are visible. Careful research has shown that if a child has a positive tuberculin reaction before he has gone to school, the person from whom he received his tuberculous infection is usually an inhabitant of his house. So, whenever a positive reactor turns up, by similarly tuberculin-testing the other people in that house and X-raying the lungs of those who are positive reactors, not only can infectious cases be found, but their prompt treatment and the institution of sanitary measures, such as stopping kissing of the children, boiling dishes, and burning the sputum, will stop most of the danger that they are to those about them. Thus, the infected child, although at the time not apparently sick, acts as a pointer to the person who is sick, and all authorities are agreed that breaking contact with the germ spreader is of first importance in the case of the child.

This activity is a recognized way of first importance for the family physician to find patients with tuberculosis who are infectious but who do not know that they are sick. Finding them adds greatly to the reputation of the physician. The method is in use by some licensed practitioners of healing arts not recognized by organized medicine. It is, to say the least, embarrassing to a doctor to have cases found for him by those he disdains. But I have seen it happen, and it will occur more frequently if the doctor does not provide himself with Vollmer tuberculin patch tests or the material for needle tuberculin-testing and go seriously to work surveying his own practice.

I have said before and now reiterate, that what is good public health practice is good for all concerned. Families appreciate their doctor sending for them, explaining the importance of the new examination and carrying it out. It often affords an opportunity to see members of his families that he has not seen for years. His practiced eye picks up a clue here and there, puffy eyelids suggesting kidney trouble, a color change denoting one of the anemias, a faulty gait pointing to trouble with the nervous system, cyanosis or dyspnea directing attention to the heart, and so forth. His practice is improved, and, more important, the health of the people he is responsible for is improved. Some doctors think it beneath their dignity to send for their patients, but in matters that concern public health the family physician's dignity and importance can only survive if he does a thorough job and shows himself to be alert to all advances in the science of medicine that add to the health security of his people. Health security is that which every family values above all else. The family physician cannot afford to let anyone supplant him by being ahead of him in bringing security from tuberculosis to his families.

A letter recently addressed to "The Family Doctor" and published in the weekly organ of the Philadelphia County Medical Society shows the coöperation of agencies in this work and the method of approach.

"The Speakers' Bureau of your County Medical Society, the Department of Health of your City Government, the Associated Hospital Service of Philadelphia (the Blue Cross), the Department of Health of your State Government and your Tuberculosis Section of your County Society, are collaborating and sparing no effort to make this work easy of accomplishment for you by having radio broadcasts to the public and speeches to all available groups of laymen prepare your people for your activity in this field. Don't let all of us down, who are working for you and your people and for the health of all of us and for the health of our descendants. Don't let it be said of the Doctors in Philadelphia that they will not come to a tuberculosis meeting and that they, therefore, must be supplanted by Political Medicine. Ask the physicians who have attended our Tuberculosis Section meetings. We think they will tell you that we have solved the problem of how to make them truly pleasurable affairs. You owe it to us, who are your servants, to come and say either 'Well done' or else give us your frank criticism so that we can better solve our tuberculosis problem together.

"The next Tuberculosis Section meeting is especially for general practitioners of medicine. It is devoted entirely to treatment. The date is Tuesday, February 4th, at 9:30 P.M. Beverage, good food, friendship, maybe a little useful information, at no cost, no dues, no collection."

In closing, allow me to remind you that tuberculosis eradication is the business of every one of us. Only with its completion can we, our families, and our descendants be safe from its ravages. Only by its completion can we be held in respect by the public that looks to us for all possible protection from preventable disease. Every tuberculosis dollar that is misused or wasted is a reflection upon us. We must demand understandable accounting from the trustees of such charity dollars and not be satisfied with such generalities as "so many thousands for this service and that service." Charges to service are, in fact, concealments and not reports. Watch the charity tuberculosis dollar payroll. In some spots it has been known to take the place of tuberculosis case-finding in the tuberculosis budget. If it does, it is due to the indifference of organized medicine.

Derivates of sulfanilamide prove effective against eye infection. "Every patient with gonococcic conjunctivitis should immediately be given adequate systemic treatment with sulfapyridine or sulfathiazole," Philip Meriwether Lewis, M.D., Memphis, Tenn., declares in *The Journal of the American Medical Association* for July 26, 1941, in a report of his experience in the treatment of 120 patients with one or the other of the two drugs.

Although numerous reports on the use of sulfanilamide or its derivatives in the treatment of this disease have been published, Dr. Lewis explains that no one has previously reported such a large series of cases or a comparison of the efficacy of the drugs.

Although sulfathiazole was used in comparatively few cases in the series, he says that at present he feels that sulfapyridine is somewhat superior.

"Sulfapyridine," the physician states, "is amazingly effective in the treatment of gonococcic infections of the eye. Sulfathiazole is apparently somewhat less effective. Both are definitely superior to sulfanilamide. A cure may be expected within three days, as a rule, from the time sulfapyridine treatment is begun."

He says that the success of any method of treatment of gonococcic disease of the eye should be judged by two standards: the preservation of vision, which means the prevention of ulcers of the cornea, or the healing of ulceration which may have already occurred, and the rapidity and ease of recovery.

"Obviously the first standard is the more essential," Dr. Lewis states, "but the second is of great importance both from the standpoint of shortening the patient's period of disability and from that of great economic saving. Prior to the use of the sulfonamides, patients were confined to the hospital for a greater length of time. They also required much more frequent attention; for example, irrigations every fifteen or thirty minutes day and night, as were commonly employed, frequently required the entire attention of one or more special nurses. Prolongation of this over two or more weeks, as was not uncommon, obviously was very expensive. Comparison of this with modern therapy by sulfapyridine or sulfathiazole, with which the patient requires very little local treatment and leaves the hospital fully recovered in less than seven days, shows the great superiority and the economic saving obtained by the latter method."

RIBOFLAVIN THERAPY IN NONVASCULAR KERATITIS*

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and

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Washington

Early in 1939 Bessey and Wolbach[1] described vascularization of the cornea as an early phenomenon in experimental riboflavin deficiency. This was almost simultaneously reported by Eckardt and Johnson[2,3] who later used riboflavin therapy in a wide variety of corneal diseases accompanied by vascularization. Such conditions included trachomatous pannus, tuberculous keratitis, and interstitial keratitis. Although improvement of the lesions was slow, there was a gradual emptying of the blood vessels. However, Johnson and Eckardt[4] later reported a series of 36 cases of rosacea keratitis, of whom 32 showed marked improvement with riboflavin therapy. Their reasoning for this therapy was based upon the fact that in the avascular cornea Warburg's yellow enzyme plays the major role in the oxidation system. Since riboflavin is an important constituent of this enzyme, deficiency of riboflavin results in an impairment of the system, and consequently there occurs proliferation of the capillaries from the limbus plexus into the cornea in an attempt to overcome this oxygen deficiency.

Upon the basis of this logic that the corneal oxidation system was impaired when riboflavin was deficient, together with the fact that riboflavin is easily inactivated by light acting upon the cornea, we decided to observe the effects of riboflavin therapy upon diverse chronic corneal lesions which were not characterized by vascularization. We felt it probable that disease of such an exposed tissue could result in a localized riboflavin deficiency, which in turn delayed healing.

Report of Cases

Our material consisted of 12 ambulatory patients presenting themselves at the Clinic of the Episcopal Eye, Ear and Throat Hospital. In this series there were 4 cases of phlyctenular keratoconjunctivitis.

Case 1. The right eye of a boy aged 8 years showed diffuse scarring of the cornea, upon which there was superimposed an acute phlyctenular keratitis. He was first seen on March 17, 1941, and local treatment of 1 per cent atropine and an eye-pad was given, together with 10 mg. of riboflavin† daily. On March 24 the bulbar injection had almost entirely cleared and the infiltrates considerably diminished. Two days later the eye was practically healed.

Case 2. A man, aged 21 years, was first seen on July 13, 1940, at which time his right eye showed scattered phlyctenules in the cornea and along the limbus. The vision was 20/70 – 1. Local treatment with atropine and pad was initiated, and he was given 10 mg. riboflavin daily. One week later the eye was fairly quiet and within a month had become entirely healed. Riboflavin was discontinued and he returned on October 30 with the eye again inflamed. He was treated with Coley's fluid and local measures, but the inflammation persisted. On December 12 riboflavin was again started in doses of 10 mg. daily. By December 18 the inflammation had subsided markedly, and the dosage was cut to 5 mg. daily for 2 weeks. When last seen on March 17, 1941, the eye was quiet and the vision was 20/40 – 1.

Case 3. A man, aged 24 years, made his initial visit on August 21, 1940, at which time he was found to have an active iritis together with phlyctenular infiltrates of the cornea near the limbus of the left eye. His tuberculin test was positive, and he was given tuberculin together with local therapy. On September 20, 1940 he developed a central ulceration of the cornea. He was hospitalized from September 23 until November 1, and on discharge there was no corneal staining with fluorescein. On December 14 he returned to the Clinic with marked photophobia and lachrymation, and an area of central ulceration was again present. The eye was patched, and as the ulcer did not heal, he was given 10 mg. of riboflavin daily beginning December 16. On December 21 no staining of the cornea was present. The riboflavin was continued for another week. He has been seen once monthly since then and the eye has remained quiet.

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* Read before the Wilmer Institute Residents' Association, May 1, 1941.

† The riboflavin concentrate used by us was in the form of Solvamin, which was kindly supplied to us by the Commercial Solvents Corporation. Solvamin contains a minimum of 5,000 micrograms of pure riboflavin per gram.

Case 4. A man, aged 28 years, came to the Clinic on March 17, 1941 and was found to have iritis in the right eye and a phlyctenular keratoconjunctivitis in the left eye. The vision was 20/100, right, and 20/40, left. He was given atropine in both eyes and the left eye was patched. Riboflavin was given in doses of 10 mg. daily. On March 24 the eyes were much better and 5 days later the vision had improved to 20/40 − 1, right, and 20/40, left. The riboflavin was continued for another week. When he was last seen on April 5 the eyes were entirely quiet and the vision was 20/40 + 1, right, and 20/30, left.

There were also in this series four cases of corneal ulceration of types which usually run a prolonged course.

Case 5. A woman, aged 50 years, was first seen on October 16, 1940, and the left eye showed a marginal ulcer surrounding the entire cornea between the arcus senilis and the limbus. She was admitted into the hospital, and the ulcer was curetted and cauterized. On November 2 she was discharged from the wards, at which time several areas still stained. Since this persisted she was given riboflavin on November 7, taking 7.5 mg. daily. On November 11 only a very small spot of staining was present, and on November 15 this was healed, so that the eye patch was discontinued. She was advised to continue with 5 mg. of riboflavin daily, and the eye has remained quiet.

Case 6. A woman, aged 40 years, visited the Clinic on July 17, 1940, with marginal ulcers of the left eye and iritis. The Kahn test was positive, and she was given antiluetic therapy. Locally, atropine and a patch were used. Since no improvement resulted, 7.5 mg. of riboflavin a day was added to this therapy on July 23. Eight days later the eye was considerably improved, with only a slight area of staining, which entirely disappeared during the following week. She was last seen in October, and the eye was entirely quiet.

Case 7. A woman, aged 45 years, was first seen in January, 1940, with a history of repeated ulcers in both eyes. She was admitted into the hospital in February for paracentesis of anterior chamber. The ulcers recurred, so that on March 8 she was given 5 mg. riboflavin daily. The cornea healed in 10 days and only stains on rare occasions. The patient states that she feels better and sees better while taking the riboflavin, and insists on taking 5 mg. daily.

Case 8. A man, aged 47 years, first came to the Clinic on June 4, 1940, with Mooren's ulcers involving both corneas, which were somewhat worse in the left eye. Infected tonsils were removed. A tuberculin test was negative. In spite of all local treatment the ulcers persisted. On January 4, 1941, 5 mg. of riboflavin daily was initiated. The ulcers would heal and then staining would recur. The riboflavin was discontinued on March 8, and the eyes flared up, so that riboflavin was again started. On April 9 both eyes were quiet and have continued so.

We also had 3 cases of superficial punctate keratitis in our series.

Case 9. A boy, aged 12 years, was first seen on March 25, 1941, with superficial punctate keratitis in both eyes, the left eye being the worse. He was given 10 mg. of riboflavin daily. Improvement was noted 2 days later, and on March 31 there was no staining present. This condition has continued.

Case 10. A man, aged 22 years, was seen on March 4, 1941, with both eyes involved. He was given 5 mg. of riboflavin daily, which was increased to 10 mg. on March 10, since improvement was slow. On March 25 the eyes looked much better, and on April 12 there was no staining present.

Case 11. A man, aged 62 years, presented himself on December 7, 1940, with infiltrates in the superficial stroma near the limbus of the right eye. He was given 10 mg. of riboflavin daily, and on December 11 the eye was greatly improved. On December 19 the eye was entirely quiet.

The final case is one of sclerosing keratitis.

Case 12. A man, aged 35 years, was first seen on July 31, 1940. His right cornea showed interstitial opacity in the lower and nasal sectors, with no staining. During the month of August the eye became worse and the vision fell to 20/40. Tonsillectomy was performed and injections of Coley's fluid were used, as were also local measures. On August 31 he was put upon riboflavin therapy, getting 10 mg. daily. On September 2 he stated that the eye felt better although there was no objective evidence of improvement. However, during the fall and winter there was definite improvement in that the deeper infiltrates became less. On February 28, 1941 the vision in this eye was 20/20−3.

It is our opinion that these 12 cases were definitely benefited by the oral use of riboflavin in conjunction with occlusion of the affected eyes. In none of these cases did we believe that there was a general ariboflavinosis, as manifested by the characteristic lesions of the mucocutaneous junctions and the seborrheic dermatitis of the face. However, it must be borne in mind that Sydenstricker[5] and his co-workers were of the opinion that ariboflavinosis was probably the most prevalent avitaminosis, and that many diverse ocular symptoms were due to this lack. Sydenstricker[6] has also observed 5 cases of syphilitic keratitis in which treatment with riboflavin was accompanied by rapid improvement during periods when antisyphilitic drugs were withheld. He expressed the possibility that syphilis produced keratitis only when the oxygen supply of the cornea was impaired by riboflavin deficiency, which was probably caused by the treponema. We feel that any disease in the cornea may cause such a deficiency in the exposed avascular tissue.

CONCLUSION

A series of 12 cases of nonvascular keratitis of diverse types were treated with riboflavin by mouth and by patching the eyes to occlude the light. Improvement was definite in all of them, even those cases which had resisted previous forms of local therapy. The riboflavin apparently causes an acceleration of reparatory processes in the cornea.

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Public becoming aware of advantages of ethical, prescribed remedies. "Education is making the public aware of the advantage of using ethical remedies and prescribed remedies," *The Journal of the American Medical Association* for June 21, 1941, declares in commenting on the results of recent Federal legislation affecting prescriptions and "patent medicine" claims.

"When the new Federal Food, Drug and Cosmetic Act was enacted," *The Journal* says, "many doubted its effectiveness. Similar consideration was given to the Wheeler-Lea Amendment to the Federal Trade Commission Act, which became a law at about the same time. Now some figures have become available which seem to indicate clearly that such legislation is having a desirable effect. The *American Journal of Pharmacy* for January, 1941 contains an item under the title 'The Nation Takes Its Medicine,' noting that prescription drugs and medicines showed an increase of $36,000,000 for 1939 over 1937 and that 'patent' and proprietary medicines for public sale decreased $18,000,000 in value in the same period The actual value of the prescription medicines in 1939 was $178,930,487. The value of 'over the counter' medicines in that year was $166,577,263. Obviously, therefore, the permissible claims for 'patent medicines' today are so restricted as to reduce their sale to the public, or the public is becoming better informed as to the advantages of employing ethical remedies and prescribed remedies. The *Drug and Cosmetic Industry* for December, 1940 provides an analysis in its story 'Ethicals Take Lead.' Apparently vitamins showed the greatest gain, glandular preparations also advanced, and the use of biologic preparations was adversely affected by the popularity of sulfanilamide in infectious conditions. . . . If, by action of the various Federal agencies, the sales of 'patent medicines' continue to decrease, a new day will dawn for the health of the American people. The health of the nation is an integral part of national defense."

OPERA-GLASS HAND (LA MAIN EN LORGNETTE)

REPORT OF A CASE

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In 1913 Marie and Léri[1] reported the case of a woman presenting unusual symptoms and signs occurring in what was apparently an atypical case of rheumatoid arthritis. The most striking differential point in this case was a destruction and absorption of cartilage and epiphyseal bone around various joints without ankylosis, resulting in a telescoping of one bone upon the next. Because the symptoms were particularly noticeable in the hand, where this deformity gave a shortened paw-like appearance, they called it "la main en lorgnette" ("opera-glass hand"). A second case of this type was reported by Weigeldt[2] in 1929 and a third by Nelson[3] in 1938. A fourth case of this apparently rare condition is herewith reported. Whereas the 3 previously reported were in women, the ages at death being 70, 64, and 31 years, respectively, the present case was noted in a male who died at 55 years.

REPORT OF CASE

In 1927, at the age of 42 years, L. B. E. first noted moderately severe shifting pains through various joints and muscles of the body. A diagnosis of neuritis was made and a course of baths prescribed. When no improvement was noted, he was told that the appendix was diseased and should be removed. Three days after this was done the patient had a severe acute attack of polyarthritis. He remained in the hospital 90 days, during which time the process finally quieted down to a chronic course after acutely involving every joint of both upper and lower extremities. A diagnosis was made of chronic rheumatoid arthritis, and the patient spent the next year trying various spas and vaccines, at the end of which time he was able to get about on a crutch sufficiently well to do light office work. On the advice of one of his physicians, his gall bladder was removed, without improvement. In 1930 another acute flare-up occurred lasting several months and again involving all of the joints of all of the extremities with redness, swelling, local heat and extreme pain. At the end of this attack the patient was left a permanently crippled invalid and never walked again. Figure 1 is a reproduction of an X-ray film of the right hand made at this time (1930). During the next 18 months he again visited various clinics and sanitoria, after which he was convinced that nothing could be done; thereafter he did not seek medical treatment for the arthritis until 1939. During this period (from 1931 to 1939) there were alternate periods of regression and remission but never any severe flare-ups; the patient was able to get around in a wheel chair and perform light work incident to the office of mayor of the small town where he resided.

In October, 1935 there was a profuse gastric hemorrhage requiring several transfusions, following which X-ray films showed the presence of a gastric ulcer. A second gastric hemorrhage occurred in March, 1938 and X-ray examination on this occasion showed an ulcer on the lesser curvature of the stomach as well as one in the duodenum. The patient was put on a modified Sippy diet and had no further symptoms for over a year.

In July, 1939 he suffered a severe acute flare-up of polyarthritic symptoms. This came on spontaneously and without any prodromal stage of debility or infection. Pain was noted in practically all of the joints of both upper and lower extremities and was agonizing. There was some swelling but no local heat or redness; there was gradually increasing limitation of motion accompanied by a sensation of "pulling" of the muscles. In July, 1939 he received a course of bee venom and later a course of cobra venom, neither of which had any subjective or objective effect. The pain became so intense that the patient was taking 6 to 8 nembutal capsules and 5 to 6 grains of codeine daily for relief. During December, 1939 he began to vomit frequently and to lose weight, but blood was never present in the vomitus, nor was there any particular gastric pain.

Examination on January 23, 1940 revealed the following positive findings. The patient was a white male of 55 years sitting up in bed, with a weary and painful expression of the face. The height was estimated at 6 feet and the weight at 160 lbs. The blood pressure was 164/120, the pulse rate 82, and the hemoglobin 11 grams (73 per cent H. H.). The muscles of the upper and lower extremities showed atrophy, grade 2, throughout. The joints of both upper and lower extremities showed deformity, limitation of motion, and tenderness. There was limitation of abduction of the shoulders to about 45°; flexion in the forward elevation plane could be carried about 30° beyond the horizontal plane. There was limitation of motion of internal rotation but none of external rotation. The changes were more marked in the left shoulder than in the right. There was about 30° limitation of both extension and flexion of both the right and the left elbows. Over the olecranon bursae there were swellings approximately 2 cm. in diameter, somewhat larger on the right than on the left. These swellings were soft, had a spongy feeling and were not particularly tender. There was some fluid in the left elbow joint but very little in the right, with tenderness on pressure over both. There was a general swelling of both wrists which was more marked in the right than in the left, and the skin over the right wrist showed a reddish brown color without acute inflammatory redness, heat or swelling. There was extreme tenderness on pressure over all of the bones and joints of the wrist. There was swelling and deformity of the midphalangeal joints of both hands and of the terminal phalangeal joints of the third and ring fingers of the left hand. The fingers were short, giving the hand a stubby appearance, but there was no ankylosis of the finger joints. The skin over the knuckles was wrinkled and thrown into superficial folds. There was a 25° arc of motion of the right hip and 15° of the left. Both knees could be extended to about 90° and flexed to about 60°, the right having somewhat greater range of motion than the left. There was limitation of motion of both ankles to about 5°. There was grade 3 pitting edema over both ankles and grade 2 over both tibiae, which the patient said did not subside at night. All of the joints of both lower extremities showed marked tenderness and considerable crepitus on motion. The spine was freely movable throughout, and the chest expansion was 3¼ inches.

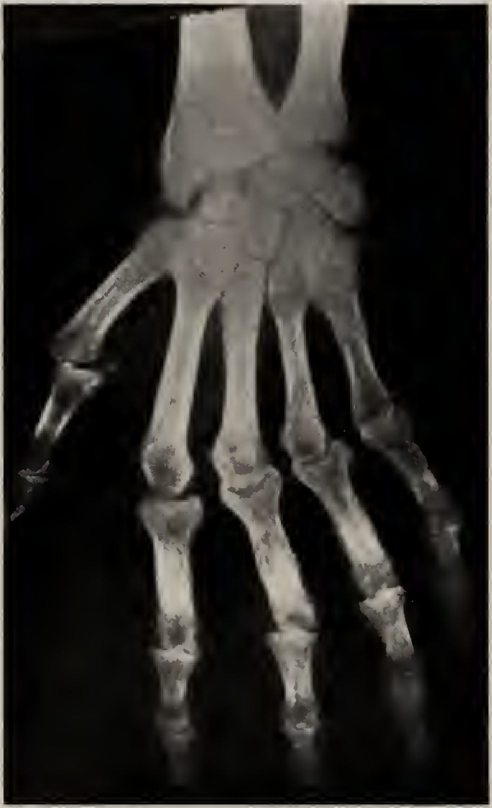

Fig. 1. The right hand in 1930

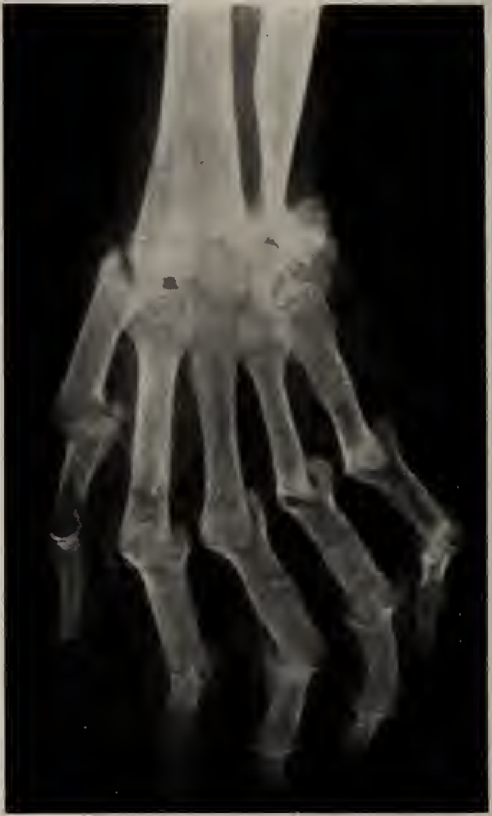

Fig. 2. The right hand in 1940

Because of certain personal problems, it was not possible to have X-ray films made until some weeks later, and during this interval it was necessary to resort to morphine to control the pain.

The patient was hospitalized February 29, 1940 and the following laboratory reports were obtained:

Blood uric acid 5.0 mg.
Red blood cells 4,430,000 per c.c. of blood
Hemoglobin 68 per cent
White blood cells 10,400
  Polys 85 per cent

Lymphs 11 per cent
Eosinophiles 1 per cent
Monocytes 3 per cent

Urinalysis: specific gravity 1014, reaction acid, albumin + −, sugar negative. Microscopic: epithelial cells, an occasional hyaline and granular cast, and an occasional red blood cell. An X-ray examination of the gastrointestinal tract showed no evidence of ulcer or malignant lesion and was essentially negative throughout. It was noted that the right kidney was moderately enlarged, with the lower border extending to the iliac crest. X-ray films of the bones and joints showed the following: "The hands and wrists present advanced osteoporosis throughout all bones (fig. 2); the distal ends of the radius and ulnar, the carpal bones, and the proximal ends of the metacarpals show a remarkable degree of resorption and dissolution with loss of identity, some carpal joints having the appearance of bony ankylosis but all others none. The distal ends of the metacarpals are unevenly rounded, while the proximal ends of the first phalanges give the appearance of being hollowed out to receive these queerly pointed metacarpals, the whole joint being involved in a telescopic type of luxation. The mid-phalangeal joints show a similar picture but to a lesser degree, as do some of the terminal phalangeal joints. The elbows (figs. 3 and 4), shoulder and hips also show dissolution and resorption of the ends of the bones with resulting false joints."

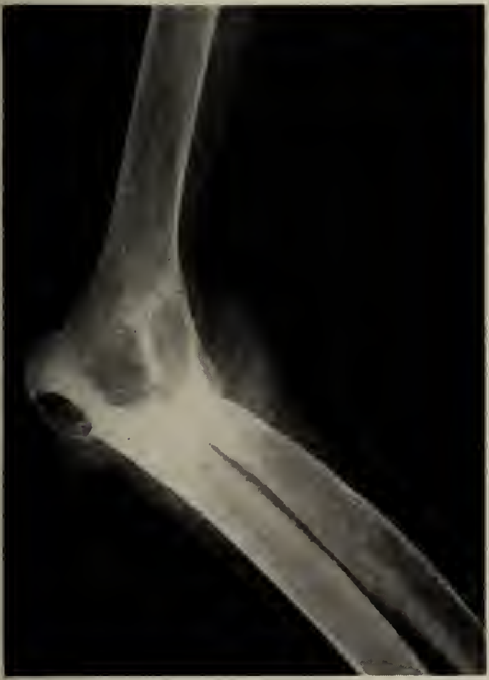

FIG. 3. Lateral view of right elbow, 1940

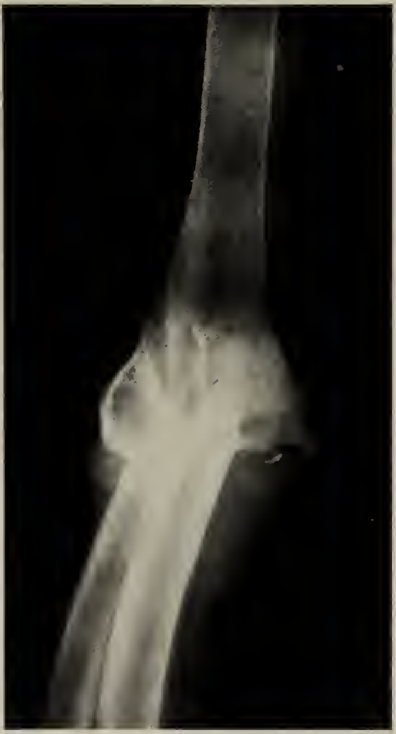

FIG. 4. Anteroposterior view of right elbow, 1940

Studying the plates together one was struck by the similarity of the process in all of the joints, that is, there was a rounding of the end of one bone entering into the articulation and a socket-like concavity of the other, forming a luxated pseudojoint. Also interesting was the fact that in the wrist and hand this change was progressively more advanced from the terminal phalangeal row of joints proximal to the carpus. In the hip, the changes were similar, and by hollowing out the acetabulum produced an Otto pelvis.

Shortly after these X-ray studies were made the patient began to go rapidly downhill. The vomiting which had been present for several months became intractable and could not be controlled by stomach washing or any type of antispasmodic or sedative mixture; the toes and then the feet of both lower extremities showed increasing edema, then cyanosis, and finally gangrene; the kidneys, which had shown indications of damage over some years, failed completely, and the patient died of an acute uremia on March 15, 1940. Permission for an autopsy could not be obtained.

Discussion

This case is of interest, not only because of its rarity, but because its exact nature is in doubt. Although certain features resemble rheumatoid arthritis, others are so different as to place the condition in a distinct category. Thus, the marked destruction of joints without ankylosis, and the advanced involvement of such joints as the hips, elbows, shoulders and terminal phalanges is unique. It is possible that this is a case of rheumatoid arthritis engrafted upon or followed by some other disease such as hyperparathyroidism with alteration of the arthritis, as is the case in psoriatic arthritis. Indeed, a case strikingly similar to this was reported by Shlionsky and Blake[4] in 1936. Being accompanied by psoriasis, it was reported by those authors as one of psoriatic arthritis. Possibly more than coincidental is the fact that the case herewith reported and that reported by Nelson[3] both showed extensive renal involvement.

Marie and Léri[1] made postmortem microscopic studies of their case and found a fatty degeneration involving all structures except the tendons, nerves and blood vessels. They noted that the bone itself was reduced to a mere shell and that so far as could be observed no cells indicative either of active destruction or repair were present.

It seems unfortunate that the original report of this condition called particular attention to the hands and named it for them. Since the same process is in progress throughout all of the bones of the body, apparently starting at the articulations, a more descriptive term would seem to be "generalized absorptive arthritis."

N.B. The author wishes to thank Dr. Katherine Chapman for the privilege of seeing this case and Major de Lorimier of the Army Medical Center for assistance in regard to the X-ray studies.

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Sulfathiazole is beneficial for recurrent mouth disease. "In 2 cases of recurrent, scarring aphthae, sulfathiazole was beneficial in relieving soreness of the lesions and promoting prompt healing," Richard L. Sutton, Jr., M.D., Kansas City, Mo., reports in *The Journal of the American Medical Association* for July 19, 1941.

"Sulfathiazole did not prevent recurrences, however," he continues, "but it gave comparable relief a second time. A large dose works better than a small one. I know no other treatment as effectual."

Cases of aphthae, the author says, are not common and are recognized under many names, but all are alike and their cause is unknown.

"Commencing as a small nodule within and beneath the mucous membrane of the lip, cheek or tongue," he explains, "a lesion increases in size, sloughs and causes severe pain, becomes a crateriform ulcer with inflamed, firm borders, runs a course uninfluenced by local treatment and eventually heals, leaving a soft, pliable, depressed, whitish scar. Several lesions may be present simultaneously. The patient, suffering over a period sometimes of many years, can scarcely swallow during exacerbations. He seeks relief, generally without any success whatever despite the ingenuity of numerous consultants, and shows a mouth with many scars to the sympathetic practitioner, who knows the better the wider his experience is that he can indeed do little to give relief."

One of the author's 2 patients had had the recurrent ulcers for eighteen and the other 1 for one and a half years. After two months of treatment the first patient said that her mouth healed completely for the first time in four or five years and stayed healed for two months. Then the disease recurred. Further treatment with sulfathiazole caused the lesions to decrease in size, but new lesions continued to appear. The response of the other patient's ulcer to the drug was prompt and gratifying, the ulcer showing good clinical improvement five days after starting the treatment. This patient reported relief from pain within forty-eight hours after starting the drug. The lesion healed satisfactorily but a year later a new sore commenced. Sulfathiazole again produced the same effect of aborting the lesion and giving relief from pain.

MASSIVE RETROPERITONEAL LEIOMYOSARCOMA WITH WIDESPREAD METASTASIS AND EXTENSION INTO THE RIGHT AURICULAR CAVITY*

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AND

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Instances of neoplastic involvement of the heart are interesting for chiefly two reasons, their rarity and the paucity of symptoms they may cause despite an often extensive infiltration of heart muscles or a marked encroachment of a cardiac chamber. An interesting pathologic feature is the relatively more frequent localization of tumors, particularly primary tumors, in the auricular wall and somewhat more frequently in the right auricle. This subject has been thoroughly reviewed by Yater[1] and also by Yater and Leffler[2].

Our case exemplifies a secondary involvement of the right auricle with almost complete filling of the right auricular cavity associated with practically no recognizable specific localizing symptoms and signs.

REPORT OF CASE

The patient, M. L., a woman aged 56 years, was admitted to the service of the senior author at the Mt. Sinai Hospital for the first time on September 26, 1938 with pain in right lower quadrant radiating downward to the groin, backward to the right sacroiliac region, and in the right upper quadrant radiating backward to the right scapular region. This pain had been present for about a year and at times was almost unbearable. Five months prior to this admission she had been hospitalized at another hospital, where, after a careful and complete study, a diagnosis of calculous cholecystitis had been made. She was operated upon, but the gall bladder was found to be normal. For some weeks following, her symptoms had subsided.

Because of the return of her symptoms she was readmitted to the same hospital, where, after a stay of 3 weeks, a diagnosis of right-sided sacroiliac disease was made and electrotherapy used without relief. In the few weeks intervening between her discharge and her admission to our hospital there were a few episodes of vomiting. Physical examination at our hospital showed the blood pressure to be 140/90, normal respiratory and circulatory rates, evidences of weight loss, and what was interpreted as an enlarged liver with an irregular edge. The right sacroiliac region was markedly tender. All laboratory findings were normal except for a moderate anemia, an increased blood cholesterol, a sedimentation rate of 32 mm. in 1 hour and 4 plus occult blood in the stools. Gastric analysis showed normal acid findings on 2 occasions. An X-ray examination of the stomach disclosed findings suggesting prepyloric ulcer and a deformity of the duodenal cap. Gastroscopic examination elicited evidences of acute gastritis. Orthopedic examination and X-ray films of the spinal column gave rise to a diagnosis of osteoarthritis of the lumbar vertebrae of both sacroiliac regions. During her stay in the hospital she showed an irregular, low-grade fever. Her anemia persisted in spite of 2 transfusions. Although a marked emotional background colored the clinical manifestations, gastric malignancy was considered, and surgical intervention was advised. This was refused by the patient. She was discharged 2 months after admission.

She then sought medical advice at a third hospital, where she was observed for 5 weeks with inconclusive findings, despite a thorough study. Her symptoms persisted.

She was readmitted to the Mt. Sinai Hospital about 7 months after her first admission with the same complaints. Physical findings were similar to those present on her last admission except for additional weight loss. Studies were not repeated, and she was again discharged without change after a short stay. Her last admission came 3 months later, about 10 months after her first admission and almost 2 years after the onset of symptoms. In addition to her previous symptoms she now complained of dyspnea and palpitation on effort, frequency of urination, dysuria, and numbness of both legs. Positive findings at this time consisted of evidences of additional weight loss, a markedly enlarged and irregular liver, low-grade fever and anemia. The gastrointestinal X-ray examination again proved to be essentially negative. Retrograde pyelograms showed normal kidneys. Peritoneoscopy suggested a diagnosis of portal cirrhosis. In spite of the indefinite findings a laparotomy was advised. At operation a large amount of serosanguineous fluid was found in the peritoneal cavity. The liver showed several white, hard nodules. A section of one was removed for histologic study. The gastrointestinal and pelvic organs were palpated and considered normal. A growth, the size of a golf ball, was palpated in the region of the upper pole of right kidney, presumably involving the right adrenal body. The postoperative course was steadily downhill. A progressive symmetrical ascending edema starting in the ankles developed during the last 3 weeks of her hospital stay. Because of the absence of signs and symptoms of right-sided failure, the edema was considered obstructive in mechanism. She became irrational and comatose and died on September 20, 1939, a year after her first admission to our hospital and about 2 years after the onset of her symptoms.

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* Read before the Philadelphia Pathologic Society, May 9, 1940.

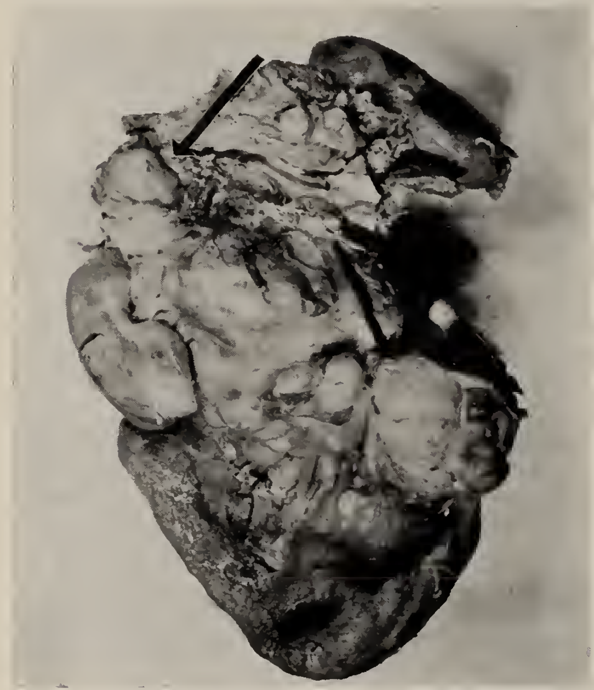

FIG. 1. Retroperitoneal mass (leiomyosarcoma) involving vena cava

Postmortem examination performed less than 2 hours after death showed a massive, firm, grayish-white retroperitoneal tumor, lying against the vertebral bodies and pushing forward the abdominal contents. Indistinguishably enmeshed in this mass were the regional retroperitoneal tissues. The inferior vena cava was greatly distended and filled by similar neoplastic tissue adherent to its wall at a number of regions. Extensions of the tumor were present in the common iliac veins and the renal and suprarenal veins. The kidneys and the suprarenals were dissected free and were found to be uninvolved. The liver was greatly enlarged and showed many neoplastic masses possessing the whorled appearance of myomata. The left lobe of the liver was almost completely replaced by tumor. The lungs showed many flat pleural nodules of similar nature and a few intraparenchymal nodules.

The most striking extension was found in the heart. The tumor process filling the inferior vena cava had apparently advanced uninterruptedly into the right auricle, distending and filling it with a globular mass 7 by 6 cm. composed of a similar neoplastic tissue, and attaching itself in one region to the interauricular septum (figs. 1 and 2). None of the remaining viscera showed metastatic involvement. The uterus showed no myomata.

Histologically the tumor in all regions showed a malignant spindle-cell process, often arranged in the interlacing fashion seen in leiomyoma. Occasional bands of well differentiated myomatous tissue were present. The tumor showed moderate mitotic activity and nuclear pleomorphism. In some regions extensive necrosis had occurred. Where the tumor was attached to the right auricular surface, it had not penetrated into the wall itself (fig. 3). Our final diagnosis was retroperitoneal leiomyosarcoma with invasion of the vena cava, common iliac veins, renal and suprarenal veins, right auricle, and lungs and liver.

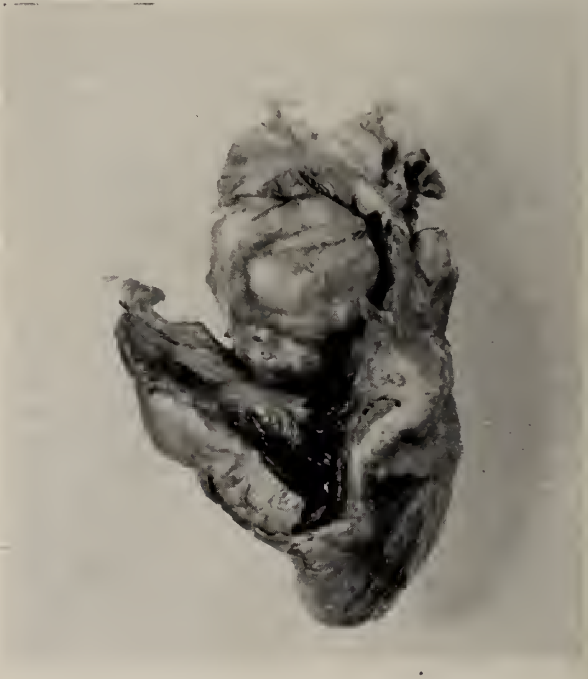

FIG. 2. Neoplastic mass filling right auricle

Myogenic retroperitoneal sarcoma is apparently exceedingly rare, only an occasional case having been reported in the literature. Hallock, Watson and Berman[3] quote Perl, who in 1871 reported the first case of primary tumor of the inferior vena cava. It is of historic interest that the histologic diagnosis of myosarcoma was made in that case by Virchow. It is possible that some tumors diagnosed as spindle-cell sarcoma were in reality myosarcomata, since in the description of some of these spindle-cell sarcomata an occasional reference to the presence of muscle tissue has been made.

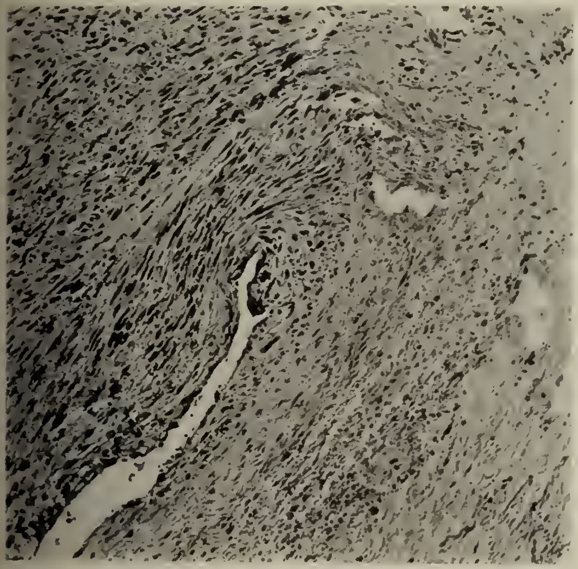

FIG. 3. Site of attachment of metastatic tumor to right auricular wall (magnified 100 times)

This case is not only of interest pathologically but also clinically. We are frequently confronted with obscure diagnostic problems. Because of the apparent failure to establish a positive diagnosis by means of our present diagnostic armamentaria a label of neurosthenia is attached to the patient, especially when an emotional background exists. In the light of the pathologic findings the symptoms and signs referable to the lower spine and abdomen become self-explanatory. The persistent moderate hypochromic anemia, low-grade fever, occasional leukocytosis, and weight loss are not pathognomonic of neurosthenia, which led us to a suspicion of an existing malignancy in the gastrointestinal tract when she was first seen by us.

One may question whether the pathologic process is in keeping with such a prolonged clinical course of 2 years. When one bears in mind that leiomyosarcoma may be of a low-grade malignancy, the paucity of mitosis and lack of marked cellular pleomorphism bespeaking the low grade of malignancy in this case, that question can be answered in the affirmative. In Melchior's[3] case, although diagnosed fibrosarcoma, the clinical course also lasted 2 years.

SUMMARY

A case presenting symptoms consisting of pain in the lumbosacral spine and right upper abdomen is reported. The clinical course was of 2 years' duration. Complete studies in 3 well recognized hospitals failed to establish a positive diagnosis. Postmortem examination revealed a massive retroperitoneal leiomyosarcoma with widespread metastasis and extension into the right auricular cavity.

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Reports coronary thrombosis case in 21-year-old youth. That coronary thrombosis, though uncommon before the age of 30 or 35, can occur is shown by the postmortem findings of the heart of a youth of 21, DEAN MACDONALD, M.D., St. Catharines, Ont., reports in *The Journal of the American Medical Association* for June 28, 1941.

Dr. Macdonald says: "The case was instructive because the condition was repeated twice and proved fatal [the third and fatal attack occurred ten and a half months after the first] when the patient was 22 years of age. The pain was relieved by vasodilators and the pain of the third attack was indistinguishable from that of cholelithiasis; such a condition should always be considered, even in young persons. The law of averages may prove that coronary thrombosis is not common under the ages of 30 to 35 years, but this does not prove that it cannot occur. I have had intimate knowledge of this condition because at the age of 29 I was a victim, as determined by the present reliable clinical and laboratory criteria, and I know of 3 other cases, 1 of which was fatal, occurring in the twenties."

FOURTH ANNUAL REPORT OF THE DIABETIC CAMP FOR CHILDREN

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and

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The fourth annual diabetic camp for children was operated at the Christ Child Society Farm for Convalescent Children, Rockville, Maryland, during the month of August, 1940. Six children were in attendance, their ages ranging from 5 to 15 years.

In addition to the regular personnel of the Farm, one adult female diabetic patient was employed as councilor, and much of the routine diabetic care of the children, such as the weighing of food, urinalysis, injection of insulin, keeping of diabetic records, and general supervision of the activities of the diabetic children, was placed in her hands. The authors supervised the diabetic treatment of the children, making three or more visits to the Farm each week.

All of the patients received protamine zinc insulin with supplemental doses of unmodified or crystalline insulin.

In 3 children the insulin requirements were decreased during the period of observation. This decrease varied from 1 to 4 units in the case of protamine zinc insulin, and from 10 to 14 units in the case of unmodified or crystalline insulin. No increases in dosage were necessary.

The diet on admission and discharge remained the same throughout the camp period for all children.

Five of the patients showed an increase in weight while they were at camp, and 4 gained in height.

Blood sugar determinations were made fasting at 11 a.m., 5 p.m., and 7:30 p.m. The average of these findings in each child at the various hours is given in the table. The micromethod which we have routinely used is the Folin method. In interpreting results obtained on capillary blood, it must be remembered that whereas in the fasting state the sugar content of arterial and venous blood is approximately the same, after a meal the capillary values are 20 to 50 milligrams higher than the corresponding figures on venous blood.

Insulin reactions were reduced in number as compared with the three preceding camp periods in 1937, 1938 and 1939. Three of the children experienced insulin reactions. In 1 child this was confined to 1 very mild reaction. In the other 2 patients, each experienced 1 severe reaction which rendered them semicomatose and several milder reactions.

The only complication that arose consisted of a mild epidemic of head colds that developed in the camp and affected 4 of the children for periods of 7 to 10 days.

The accompanying table gives the essential data of these children so far as their diabetes is concerned during the period of the camp.

Fracture of the neck of the femur: a technique for rapid nailing. A. D. LaFerte, M.D. of Detroit, in *The Journal of the Michigan State Medical Society* for July, 1941, stresses the importance of giving as little anesthetic as possible to elderly persons. In order to shorten the operation time, he eliminates multiple roentgenograms.

In order to localize the head of the femur a coin is fixed to the skin and a roentgenogram is made after centering the X-ray tube with a plumb line over the coin. This gives a positive relative position for directing the nail toward the head of the bone.

In securing the proper lateral position of the nail, it is not felt that any given number of degrees of internal rotation of the thigh is an accurate procedure as the anteversion of the neck varies greatly in the normal bone. It is recommended that a more reliable method is to internally rotate the thigh to a point when tension is placed on the posterior structures of the hip joint. Such tension brings the neck of the femur more nearly parallel to the operating table.

The film tunnel which the author uses is made of rigid material and is placed on the ordinary operating table.

If the nail is properly placed on the first attempt, which it usually is, the entire procedure under anesthetic takes but a few minutes.

The anesthetic of choice is Pentathol Sodium.

TABLE 1

Salient Diabetic Data

NAME	NUMBER OF DAYS AT CAMP	AGE	SEX	INSULIN DOSAGE ON ADMISSION		INSULIN DOSAGE ON DISCHARGE		DIET ON ADMISSION AND DISCHARGE, GRAMS			WEIGHT ON ADMISSION	WEIGHT ON DISCHARGE	HEIGHT ON ADMISSION	HEIGHT ON DISCHARGE	REACTIONS: 1+ MILD, 2+ MODERATE, 3+ SEMICOMATOSE, 4+ COMATOSE	AVERAGE BLOOD SUGAR	REMARKS
				Protamine	Regular	Protamine	Regular	C.	P.	F.							
		years									*lbs.*	*lbs.*	*inches*	*inches*			
H. R.	31	15	F	54	44 (breakfast) 4 (supper)	50	30 (breakfast) 4 (supper)	153	68	131	105.75	105	59.75	59.75	Several 1+ Several 2+ One 3+	Fasting 179.6 11 a.m. 84.8 5 p.m. 162 7:30 p.m. 245.2	Head cold for 1 week
B. M.	31	5	M	10	10	8	0	148	56	93	45	47.50	43.50	43.75	Several 1+ One 2+ One 3+	Fasting 80.1 11 a.m. 185.5 5 p.m. 293.2 7:30 p.m. 236.7	None
N. P.	31	10	F	14	10	14	10	196	86	105	77.75	82.25	57.75	58	None	Fasting 148 11 a.m. 213.8 5 p.m. 285.2 7:30 p.m. 253.2	Head cold for 10 days
G. T.	31	7	F	10	4	9	4	155	40	70	44.25	45	47.50	48	None	Fasting 159.3 11 a.m. 209.8 5 p.m. 261.5 7:30 p.m. 263.7	Head cold for 10 days
R. D.	30	6	M	12	2	12	2	130	50	75	39.25	40.50	44	44	None	Fasting 101.4 11 a.m. 193.8 5 p.m. 279.5 7:30 p.m. 217.7	Head cold for 1 week
J. D.	15	9	F	12	5	12	5	203	86	106	66.50	68.75	53	53.25	One 1+	Fasting 108 11 a.m. 186.6 5 p.m. 267.5 7:30 p.m. 241	None
A. L.	31	19	F	44	8	16	8	242	100	64	109	105.75	61.50	61.50	Numerous 1+ Several 2+	Fasting 169.6 11 a.m. 220.2 5 p.m. 307	Gastrointestinal upset for 1 week

EDITORIALS

THE NEW ARMY LEARNS ABOUT HEALTH

When the United States entered World War I the time factor was all important. A vast army had to be put in the field with the greatest possible speed. Realizing that there were only months in which to do what would, under any other circumstances, have required several years, the country set itself grimly to the task. That this gigantic undertaking was successfully accomplished reflects great credit upon the American people. However, the Nation has paid severe penalties for its pathetic state of unpreparedness.

Thousands of men were accepted for military service who today would be rejected. Physical examinations were, of course, made to determine fitness. However, the X-ray and the laboratory were not used routinely, reliance being placed on clinical findings. Psychiatric examinations and special studies of abnormalities for the purpose of eliminating those who might become Government charges after the war were time-consuming, which perhaps explains their omission. Unavoidable though this situation may have been, the results were tragic.

Twenty-two years after the close of the War, hundreds of veterans are still confined to Government hospitals, suffering from chronic diseases which might have been discovered in their incipient stage. By far the largest number have required institutional care for nervous and mental conditions.

In general our armed forces received as good medical attention as was possible under the circumstances. However, the Army was not prepared to cope with the influenza epidemic which so decimated the ranks in 1918, neither were accommodations for the sick as adequate as they should have been. Laboring valiantly under the most difficult circumstances, the Army Medical Corps nevertheless gave a most splendid account of itself.

It is perhaps unfair to compare conditions during World War I with those which now exist. In the first place, we are not at war. Urgent though it be that this country prepare itself for any emergency which may arise, we do have time to do a far better job than in 1917. Needless to say, we have learned a lot from our previous experience. Great advances have also been made in medical science.

Illustrative of the progress which has been made are the health procedures prescribed for the 1941 selectee. As most physicians know, when the selectee is called up for examination, a thorough clinical examination is made. Routine laboratory tests are confined to a Wassermann and a urinalysis. However, the examiner may order other tests which he considers necessary or direct the selectee to the Medical Advisory Board, which is made up of specialists who pursue the investigation. On the basis of their findings the selectee is recommended for acceptance or rejection. However, he must still pass the examiners at the Army Induction Station. Here he is given a detailed examination, including a psychiatric examination to determine if he is emotionally stable.

Having been passed at the Induction Station, the selectee reports for military duty. He is immediately vaccinated for typhoid and smallpox and is immunized against tetanus. If his contingent is being ordered to the Tropics, he is given yellow fever immunization. He may also receive influenza and pneumonia serum but these are at present given only experimentally and have not been adopted as a routine procedure.

Our new soldier soon learns that he must attend lectures on personal hygiene, first aid and venereal disease control. Attendance is required by Army regulations. He discovers, too, that such precautions as water purification, proper sewerage disposal, and eradication of mosquitoes and other insects are being taken to protect his health. He is supplied with clothes suitable to the seasons of the year, clean living quarters, and the best of food. In other words, everything possible is being done to keep him physically fit.

When our soldier returns to civilian life, he will be far better informed about his health and how to preserve it than he was previous to his Army experience. Hundreds of thousands like him will carry into their homes this newly acquired knowledge. It is reasonable to believe that the result will be a healthier and happier America. If there is no other worthwhile by-product of our defense program, this would be enough.

BLOOD SUBSTITUTES IN THE NAVY

The enormous expansion of the Navy for the defense of the Nation has produced many urgent medical problems. One of the most difficult of these is the procurement of adequate quantities of suitable blood substitutes for the treatment of shock resulting from hemorrhage, burns and multiple injuries which may occur as the result of naval warfare on sea, land and in the air.

There is adequate experimental and clinical evidence now available to establish definitely the acceptance of liquid, frozen and dried human plasma, human serum and human albumin as satisfactory blood substitutes for the treatment of shock, hemorrhage, burns and hypoproteinemic states. The use of sufficient amounts of plasma or serum in surgical emergencies often produces dramatic results. In secondary shock there is an immediate need for replacement of lost blood volume. In order to restore the lost blood volume, colloidal solutions capable of exerting increased oncotic pressure are essential. This is also true of burns where tremendous quantities of plasma are lost.

It appears at present that in the not too distant future it may be possible largely to replace human plasma, human serum and human albumin with bovine albumin; however, adequate experimental and clinical trials have not been completed to warrant the clinical use of this material at the present time. Until such time that it can be definitely proved that bovine albumin, prepared from bovine plasma, is a satisfactory blood substitute for the treatment of shock and hypoproteinemic states, we must depend upon blood substitutes prepared from human blood.

With the above facts in mind the Navy is attempting to have on hand an ample reserve supply of blood substitutes to meet any emergency. The small scale preparation of liquid, frozen or dried plasma is not difficult, but the mass production of enormous quantities offers many serious difficulties and makes it impracticable for the Navy to undertake the preparation of more than a small part of its needs. It has been estimated that the Navy should have a reserve of at least 100,000 bottles of plasma, each bottle containing 250 c.c. of original plasma. On first thought this amount may appear excessive; however, it must be recalled that a severe case of traumatic shock may require 1,500 to 3,000 c.c. of plasma.

To enroll and to collect blood from the required number of volunteer blood donors is an enormous task requiring an efficient organization. The American Red Cross and the Subcommittee on Blood Procurement of the National Research Council are working hand in hand on this phase of the problem. In addition the American Red Cross is financing the establishment of many of the blood donor centers and the shipment of blood to the processing centers.

A blood donor center has been in operation at the Naval Medical School for over ten months. During this period several hundred volunteer blood donors from Washington and vicinity have contributed to the Army-Navy Blood Plasma Bank. Among them have been Service personnel as well as civilians. Every normal, healthy adult between the ages of 21 and 60 years can participate without harm or any great inconvenience. The Red Cross slogan, "A little of your blood may save a life," should appeal to every patriotic citizen.

L. R. N

PERTINENT PARAGRAPHS

July Meetings There are several reasons for the inactivity of committees during the month of July. First of all, the organization year begins on the first of the month. New committees are appointed and reorganization requires time. Then, too, many physicians take their vacations at this time of the year, and it is difficult to obtain adequate attendance at meetings. Some committees, however, have been active, as the following list of meetings discloses.

July 10	Subcommittee on Military Exhibit, Annual Scientific Assembly
July 17	House Committee
July 21	Committee on Military Affairs
July 24	Subcommittee on Scientific Exhibits, A. S. A.
July 25	Committee on Medical Economics
July 28	Committee on Public Health Executive Board

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"Disturbed Morale" Recently Dr. Karl L. Menninger, widely known psychiatrist and President of the American Psychoanalytic Association, addressed the University of Virginia Institute of Public Affairs. It is reported in the press that he expressed the opinion that the nation's morale was at a low point. Dr. Menninger said:

"There is certainly a diversity of attitudes toward Army enlistment. It seems to be an unsettled question whether enlistment should be considered as primarily an opportunity for expressing unrestrained belligerency and brutality in a good cause; a privilege for the obtaining of vocational training, and companionship; an unpleasant patriotic obligation to be evaded if honorably possible; a course of discipline and treatment for reckless, wayward, spineless, unadjusted young male adults; or a course of punishment for recalcitrant individuals who need a firm hand."

Dr. Menninger pointed out that instead of "what we like to regard as the normal spirit of optimism, courage, single-mindedness as to national aims, loyalty to the Government, to the cause espoused by the Government and to the allies of the Government," there is fear, panic, pessimism, discouragement, suspiciousness, disgruntlement and resentment. He continued:

"From the psychiatric standpoint, this can be described as an inappropriate diversion or deflection to the Nation itself of some of the aggression which should be directed against the enemy and the threat of danger.

"This phenomenon of substituting someone we love for the infliction of hate felt but not expressed toward someone else is very familiar to psychiatrists. In individuals it is called neurotic; in a nation it is called disturbed morale."

●

Group Practice

It would seem that all that could be said about group practice has been said. However, a report which appeared in the July 12 issue of the *Journal of the American Medical Association* contains some facts which are new and others which are not so well known.

"In 1932 the Bureau of Medical Economics made a study of group practice. At that time 239 groups gave information as to their make-up. A second study of the same subject, just completed, gives an opportunity for comparison. It was found that about 100 of the groups that existed in 1932 had disappeared, but a much more thorough search for groups, supplemented by the assistance of the secretaries of county medical societies, secured returns from 335 groups....

"A study of the history of groups indicates strongly that they have been influenced by the frontier phase of American history. Their greatest period of growth was in the five years from 1919 to 1923 inclusive. In spite of a high group mortality, there is a larger number of survivors of this five-year period than of any succeeding equal period. This was the time when the scientific discoveries of Pasteur, Lister, Koch and the Curies were firing the new generation of physicians with enthusiasm for laboratory methods. These young physicians went out to practice where laboratories and hospitals were rare or often nonexistent or poorly equipped and where specialization had scarcely begun. It was natural that they joined into groups where some of the members could give 'special attention' to the phases of medicine in which they were most interested. Their pooled funds made possible some sort of a laboratory and often of a hospital. Today these conditions have largely disappeared except in a few localities. The physician practicing as an individual has access to laboratories and hospitals superior to the majority of those operated by groups. His choice of specialists is not confined to one of each type in a single organization.

"A smaller percentage of groups investigated in 1939 and 1940 operated hospitals than in 1932. Many of the groups have found that the laboratories they are able to maintain are inadequate, and a large number of groups reported that they use outside laboratories or hospital facilities, such as are available to all private practitioners.

"Is there any reason to believe that group medicine is growing at such a rate that it may in any reasonable time be expected to supplant private practice? Aside from the fact that the number of groups established annually seems to be decreasing is a further fact that the motives which cause physicians to join groups are not of any far-reaching economic or personal type that would affect the great majority of physicians. Of 335 groups there were 109 with two or more physicians having the same family name. Family relations, therefore, would seem to have much to do with the formation of medical groups. Even in 1932 the majority of group members expressed the opinion that there was no financial advantage in group organization. That conclusion is affirmed and emphasized by the present study. It was difficult to obtain information concerning groups that had disappeared, but the most common complaint from those that did report was of financial difficulties. There were widespread reports of internal dissension within groups as one of the major causes of their high mortality."

The report makes it clear that the American Medical Association is not opposed to group practice. It points to the fact that a number of its presidents and other officials have been members of such groups. "If there was any feeling of antagonism to groups, it would scarcely seem possible that the highest honors in the gift of organized medicine should be given to members of groups.

"Whatever criticism has been directed against physicians as members of groups has been against individuals who have been charged with violating the Principles of Medical Ethics, which apply to all physicians regardless of whether they are practicing as individuals or as members of groups. Organized medicine has insisted that membership in a group with the introduction of lay business management does not exempt physicians from the same ethical obligations that are imposed on every member of the profession. Such membership does not justify solicitation or advertising or the adoption of methods of contract medicine which 'make it impossible to render adequate service to the patient' or which in any other way interferes with the public welfare."

Most physicians will agree with the concluding statement that "One of the most important functions of the general practitioner is to act as the point of first contact with the patient, to determine his own capacities in the treatment of any illness, and then to act as adviser of the need and character of such other services as may be required and finally as a coördinator of such services.

"The question of whether this function can best be fulfilled within or without a medical group is one on which there will always be differences of opinion and the answer to which will probably be warmly disputed and finally settled, not according to broad theoretical principles of medicine, economics or sociology, but largely according to the personal attitudes and inclinations of physicians and the local situations within which the question is posed."

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Medical Bureau

Medical Bureau is now firmly established as a valuable agency of the Society. The number of subscribing physicians has increased to a point where the Bureau is self-sustaining. On August 1 there were 155 subscribers, 39 to Telephone Secretarial Service and 116 to the Alternate Listing Service.

Calls handled by the Bureau have increased rapidly, as the following comparative figures show:

	December 1940	*May 1941*	*July 1941*
Calls completed from patient to physician	671	1,495	2,029
Calls received from physicians reporting their whereabouts	543	946	1,470
Calls where the inquirer had no physicians and where a doctor on the "Emergency List" was sent; or, if indigent, calls referred to the Health Security Administration, Permit Bureau, or Police Department	36	47	76
Requests for names of physicians	71	215	284
Total number of recorded calls	1,321	2,703	3,859

The Medical Bureau Committee is certain that many physicians who have not subscribed will wish to do so when they learn of the excellent service being given. Applications for Bureau service should be made to the Secretary of the Society. Contracts for Alternate Listing Service will be dated December 1, at which time the next telephone directory will be issued.

Recently the Secretary communicated with several Government departments, suggesting that the Bureau was in a position to provide reliable information about practitioners to new defense workers in the city. Some departments have responded and leaflets describing services rendered by the Bureau have been furnished them.

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"Health Resorts of the U.S.S.R."

Although most of the letters received at the Medical Society's office are of a routine nature, among them are unusual communications. Infrequently there is a unique letter such as the following:

The U.S.S.R. Society for Cultural
Relations with Foreign Countries
Bolshaya Gruzinskaya, 17

Moscow, 56
Address for telegrams: Moscow, Cultswiaz

Moscow, May 16 1941

Medical Society of the District
of Columbia,
1718 M. Street
Washington, D. C.

No. 40–3–2

Dear Sirs;

We take pleasure in informing you that on April 26, 1941 we sent you a copy of the book "Health Resorts of the U.S.S.R."

We hope it will be of interest to you.

Very truly yours,
M. Milikovsky
Chief, International
Book Exchange Dept.

One could hardly conceive of a place which would be less attractive as a health resort at the present time than the vicinity of Moscow. As one physician expressed it: "You would have to be a walking arsenal and then you wouldn't be particularly happy."

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A Reminder

Books of Group Hospitalization, Inc. will be opened again on September 1 to members of the Medical Society who wish to subscribe. Application forms, which will be provided by the Secretary of the Society upon request, should be forwarded to the Society's office not later than August 15.

Subscribers are reminded that when they receive their statements for dues, checks should be made payable to the Medical Society of the District of Columbia and forwarded to the Society's office. Rules of Group Hospitalization, Inc. require that each group have its own treasurer, which in the case of the Society is the Secretary-Treasurer, who collects the dues and remits to Group Hospitalization, Inc.

At present 351 members of the Society and their dependents are subscribing to Group Hospitalization, Inc.

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The Effect of Weather on Health

An article on "Weather and the Practice of Medicine" by William F. Petersen, M.D., of Chicago, appeared in the June issue of the *Connecticut State Medical Journal.* Some striking illustrations are offered to substantiate the scientific conclusions. Dr. Peterson says:

> "What killed Calvin Coolidge? In the final analysis, the weather.
>
> "On December 31, 1932, temperatures in New England had been in the 60's. Then, on the 1st of January there followed a drop of 50°F. in 24 hours! Adjustment to such an environmental blow taxes the energy stores of the best of men. There followed an equally rapid rise in temperature, so that by the 5th of January temperatures again were in the 50's. . . . At the temperature crest Calvin Coolidge was found dead."

Fully as interesting is his account of why Abraham Lincoln broke his engagement and its relation to the weather conditions at that time. Dr. Petersen concludes:

> "Atmospheric change, though a commonplace in our every-day lives, is actually the dominant force to which physiological adjustment must be made by the human; cold and cooling effects are still the major energy impacts of the environment. Brusque alterations most often initiate clinical episodes. But minor changes, repeated in rapid sequence or at critical intervals, are possibly of equal significance in the initiation of dysfunction and finally of anatomically observable pathological changes. Of course the individual resistance varies; it depends on the physical type, on the sex, the age, on the degree of protection or exposure, on the genotype, on previous experience. So, too, each region offers its own peculiarities. High altitudes may lessen the effect of cold, the ocean coast will moderate temperature fluctuations, the amount of iodine in the soil or the availability of direct sunshine, the shelter of the mountain range against wind, the change in air ionization in industrial centers—all these and many more factors must be considered."

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Hospitals Taken To Task

"One thing . . . admits of no dispute, and that is that the hospitals are in a parlous state and something very soon will have to be done about it. Half-hearted measures are of no use. The time has come for the large view, for the facing of facts even if unpleasant, for drastic measures."

Such is the conclusion of Dr. Miles Atkinson, who has written an article entitled, "The Patient Comes First," which appears in the August issue of the *Atlantic Monthly.* In a rather comprehensive review of the hospital situation, Dr. Atkinson charges that hospitals have lost sight of the sole reason for their existence. He says:

> "The first place goes to the patient. Hospitals, as well as doctors, would not exist if there were no sick people. Carry this reasoning a stage further, and the

doctor occupies the second place in importance, for without him and the patient there would be no need for the hospital, which, at a pinch, both can still do without. The importance of the doctor, reduced to fundamentals, lies in his experience in treating the sick; the hospital building and its equipment provide him only with a better means of doing it.

"The hospital, then, as a building with its administrative staff, takes only third place in our medical economy. This fact is not infrequently overlooked by the administrators."

He deplores the erection of mammoth edifices which he claims are uneconomical. "Big hospitals—by which I mean those huge aggregates of buildings housing half a dozen amalgamated institutions—have many and grave disadvantages," he states. "The argument for them is that they are more economical and more efficient. They are certainly impressive, but their economy and efficiency are more doubtful.

"To one accustomed to the hospitals of Europe, these palaces are breath-taking. The visitor from that impoverished continent gazes in awe at the spacious halls and passages, the seemingly numberless elevators, the lavish equipment, the profusion of secretaries, helpers, orderlies, which combine to give an impression of luxury and wealth beyond his wildest dreams. Walking down the broad corridors and coming on drinking fountains at frequent intervals, he is quite disappointed to find that they gush forth only cool clear water, not some rare Tyrrhenian wine, for the effect is wholly Roman in its grandeur.

"All this is very well when you can afford it, though even so it savors somewhat of ostentation. Nowadays this lavishness hides an empty purse and a continual struggle against adversity. It is like the situation of a man who has made a reputation for himself by the splendor of his menage or built up his business on extravagant display—when difficult times come he cannot afford to give it up and he cannot afford to keep it up. Many hospitals are in just that position. Overheads remain, income is diminished. The extravagant organization planned in the plenteous years of the twenties has to be maintained in the lean years of the forties."

Dr. Atkinson then proceeds to substantiate his argument that "huge" institutions are expensive and of necessity inefficiently operated. He contends that to survive financially, these hospitals must exploit both the patient and the physician. He elucidates:

"In recent years the private hospitals have seen their income from past endowments diminish and new endowments become fewer; they have seen their income from subscriptions and donations fall off to an alarming degree, while at the same time they have been faced with a steady increase in the cost of maintenance. This is a problem of common knowledge, and it has caused the managing boards of these hospitals many a headache in their efforts to solve it. One thing at least was obvious: that people must pay, so far as they could, for the actual out-of-pocket cost to the hospital of their maintenance as in-patients or their treatment as out-patients. I am speaking, of course, of people called nowadays the medically indigent, who cannot pay the whole cost of medical care, and not of the more well-to-do patients who use the private accommodation and pay their way . . . .

"Each patient, when he arrives at the hospital for the first time, goes through the social-service department, or its equivalent, to be assessed with regard to his ability to contribute. The few who can pay nothing are either passed in free or referred to a municipal hospital. The others pay a fixed rate or are rated according to their financial capacity, depending upon the particular method of the individual hospital. If a rating system is used, payments throughout the hospital, whether for clinic attendance, X-rays, medicine, or in-patient treatment, are based on the rating the patient has been given, and, in the case of the top rating, they may be pretty high. Theoretically, these payments are considerably below the ordinary fees of doctors in their offices, but there are times in actual practice when they approach such fees uncomfortably closely . . . .

"For instance, take the case of a patient attending a clinic with some condition very simple to diagnose—let us say a sebaceous cyst on his head. After waiting, perhaps for a long time, he is dealt with in a moment because the diagnosis is obvious and he is told he should have the cyst removed. He pays a fee for the opinion; he returns another day and pays another and bigger fee for the small operation; finally he comes to the clinic to see that all is well, and pays again. He really pays a good deal for that very simple matter . . . .

"However, though the patient is sometimes made to pay more than seems just, his exploitation is on a minute scale compared with that of the doctor, under the conditions in which medicine is practiced today. Yet everybody tolerates the evil, and, so long as no protest is made, naturally managing boards are not going to do anything which would reduce their already precarious income.

"In the first place, the doctors on the staff of a hospital give their services—a fact which many patients do not realize. Often the patient believes that some of what he pays goes to the doctor, as in truth it should. The practice of doctors' giving their services for nothing goes back to the days when hospitals were entirely supported by charity and their inmates were the sick and needy who paid nothing for the care they received. It has always been the privilege of the medical profession, part of its code, to care for the sick poor without question of payment. But what is sauce for the goose is sauce for the gander. If the hospitals find times difficult, so do the doctors. If the hospitals demand contributions from patients for their services, a proportion of those contributions belongs to the doctors for theirs. Hospital authorities seem to forget that what they give to the patients would not be much good without what the doctors give; that medical care is as much what the patient is paying for as hospital care. Many patients believe this is true, as I have said, and are surprised and even indignant when they find that it is not . . . .

"A practice connived at and even encouraged by some hospitals is the use of their out-patient facilities for consultations. A doctor not connected with the hospital has a case about which he wants an opinion regarding diagnosis and treatment. He sends the case to the hospital with a letter asking for this. The patient is sent to the appropriate department with his chart marked 'Consultation Only.' This means that the specialist who sees the patient is to give his expert opinion on the case. A letter is then written to the referring doctor embodying the results of the consultation, and the patient is returned to him to be taken care of. Now if the referring doctor is prepared to treat his patient as a hospital case without payment for his own services, there can be no objection, but usually the private doctor obtains for his patient the benefit of a consultation with a specialist for nothing. However, if that patient can afford to pay his family doctor for treatment, he can afford to pay the specialist something for a consultation. He should, in fact, be sent by his doctor to the specialist's office for a consultation at a reduced fee. The reason why this is not done is due partly to the doctor's reluctance to ask, as he thinks, a favor, and partly to the grudging attitude of some consultants towards reducing their fee. Both attitudes are regrettable and unfair to the patient . . . .

"On a par with this practice, though less obvious, is the practice of offering special all-in rates for obstetrical services, provided that the resident or some paid member of the hospital staff performs the delivery, or the supplying of resident or nurse anesthetists at cut rates. In each of these cases the individual physician is put into the position of competing against a large concern which can offer special rates, like the individual trader who has to compete with the chain store. It is a state of affairs that merits serious thought, especially from those doctors who are averse to any form of socialized medicine, for many hospitals are practicing the latter already under the guise of voluntary service. The menace of socialized medicine, if it is a menace, comes from within as well as from without.

"Another widespread practice that is generally accepted, though it is difficult to see why, is that of working the pathological laboratories and X-ray departments deliberately at a profit—the charges are such that income is higher than expenses. The difference, or the profit, goes into the funds of the institution. As it was put very truly in a medical paper not long ago, 'The arithmetical difference between the total cost of operation and the total profit derived . . . is certainly represented by the individual services of the medical personnel'; but funds which represent professional training and specialist knowledge are diverted from the doctors to the institution."

A Washington hospital executive has promised to comment on Dr. Atkinson's article. His statement will appear in an early issue of the Annals.

AID FOR POLIOMYELITIS PATIENTS

The National Foundation for Infantile Paralysis is trying constantly to give every possible aid to infantile paralysis patients through the combined efforts of its Chapters and the parent organization.

One of the many responsibilities that the Foundation has assumed as an invaluable aid to infantile paralysis patients in the acute stages is the free distribution of Toronto splints and Bradford frames in epidemic areas and to indigent persons, regardless of age, who may need them. Over 3,000 of these appliances have been used during the past two years.

A booklet "Splints" is available that describes in detail the method of distribution and proper use of these orthopedic appliances.

There is no charge for the splints and frames except transportation and they can be obtained upon the request of any County Chapter officer or responsible person in the medical profession. Address all communications to the National Foundation for Infantile Paralysis, 120 Broadway, New York City.

REPORT OF DELEGATE TO THE AMERICAN MEDICAL ASSOCIATION

Your delegate was present at all sessions of the House of Delegates which convened during the meeting of the American Medical Association in Cleveland, June 2–6, 1941.

Following the initial roll call, the election of a candidate to receive the Distinguished Service Award was the first business of the House. The Board of Trustees having nominated Dr. James Ewing, Dr. Simon Flexner and Dr. Ludvig Hektoen, the selection was made by ballot, your delegate being one of the tellers appointed by the Speaker. Dr. Ewing was chosen by a large majority in recognition of his outstanding work in neoplastic diseases.

The delegates then heard the address of the Speaker, Dr. H. H. Shoulders, at the conclusion of which he announced the appointment of the reference committees. For the first time in a number of years your delegate was not assigned to any of the committees, thus making it possible for him to attend hearings held by the various committees on subjects of particular interest to our own Society.

The addresses of the President, Dr. Nathan B. Van Etten, and of the President-elect, Dr. Frank H. Lahey, were both of a high order and it is recommended that they be read by every member. They appear on pages 2694–7 of the *Journal of the American Medical Association* for June 14, 1941.

The reports of officers, the Board of Trustees, and the various Councils and Standing Committees received the attention of the House and the detailed study of appropriate reference committees.

Resolutions on numerous subjects were introduced by various state delegations. Of particular interest were two resolutions presented by the delegates from Michigan, one indicating there is a growing feeling that specialty boards should be organized and operated upon more democratic lines, the other urging the creation of a Section on General Practice. From New York came resolutions seeking the adoption of a regulation requiring that hospitals approved for intern training have their departments of pathology, radiology, anesthesiology, and physiotherapy under the direction of physicians specially trained in these fields, who should represent those departments on the medical staff with voice and vote. There were two resolutions, one from Arkansas and one from Michigan, demanding compensation for physicians serving on Selective Service examining boards.

While discussion revealed a rather widespread sympathy with the first two Michigan resolutions, neither the reference committees nor the House felt that they could be adopted as presented. The first was entrusted to the Board of Trustees for further study and the second was answered by the approval of a special session for general practitioners to be held during the 1942 annual meeting, the issue to be determined by the character of the program developed and by its popularity.

The New York resolution was adopted in principle with provision for exceptions in localities where hospitals might find it impossible to secure qualified staff members for the special departments enumerated.

The resolutions proposing compensation for physicians serving as examiners on draft boards were rejected as not being in harmony with the offer of all-out coöperation with the Government in the defense effort.

The recent court proceedings resulting in the conviction of the American Medical Association, et al., for alleged violation of the Sherman Anti-trust Act was the subject of a very full report by the Board of Trustees and by Mr. Edward W. Burke, Counsel for the Association. The House instructed the Trustees to appeal to the higher courts.

Dr. Fred W. Rankin, of Louisville, Kentucky, was elected President-elect, without opposition, and St. Louis was chosen for the 1944 meeting.

Henry C. Macatee, M.D.
Delegate

PRESIDENT'S PAGE

WHAT THE ASSEMBLY OFFERS YOU

Seldom has there been such enthusiasm and well merited praise for a medical meeting as there was for the 1940 Annual Scientific Assembly. Not only had the Assembly grown far beyond expectations but the quality of the programs and exhibits presented were outstanding. It is not surprising then that the Assembly is now recognized as one of the outstanding scientific meetings in the country.

This year's program is to be devoted to Current Problems in General Medicine. An examination of the preliminary program which will soon be in the hands of the membership discloses that a variety of subjects will be discussed, among which are emergencies in general medicine, preventive procedures, the use of newer drugs, treatment of psychoneuroses, and recent developments in military medicine.

Last month I mentioned the activities of the Society in relation to National Defense. These extend to the Annual Scientific Assembly. Participating in a symposium on "Medicine in National Defense" will be such notables as Dr. Warren F. Draper, Assistant Surgeon General, U. S. Public Health Service; Rear Admiral Ross T. McIntire, Surgeon General of the U. S. Navy; Major General James Carre Magee, Surgeon General of the U. S. Army; and Colonel Leonard G. Rowntree, Chief, Medical Division, Selective Service System.

It would seem difficult to improve on the Scientific and Public Health Exhibit presented last year but a number of outstanding exhibitors have been added to those who have previously participated.

Replacing the Doctors' Hobby Show, which won such high praise, will be the Military Exhibit. This exhibit will be unique in many respects. Medical departments of the Army and Navy are lending their coöperation in this undertaking.

Although attendance at the 1940 Assembly reached a new high, some 1,400 registering, it is my hope that it will be considerably increased this year. I would be especially gratified if at least 90 per cent of the Society's membership was in attendance. So far it has not exceeded 60 per cent. It seems to me that every physician in the District will want to take advantage of the opportunity to participate in what in my opinion is aptly described as "The Scientific Event of the Year in the Nation's Capital."

Henry R. Schreiber

MEDICAL PREPAREDNESS SECTION

MOBILE FIRST AID CORPS

The Medical Society has been informed by General F. R. Keefer, Chairman of the District of Columbia Chapter of the American Red Cross, of the establishment of a Mobile First Aid Corps which will be called upon in event of a war-time emergency such as an attack on Washington. A number of physicians will be needed as the Organization Table shown below discloses.

Conferences have been held with representatives of the Red Cross regarding the participation of members of the Society in the Mobile First Aid Corps. Further details in regard to the manner in which physicians will be asked to coöperate will be announced in the near future.

	CORPS HEAD-QUARTERS	AREA HEAD-QUARTERS	COLLECTING STATIONS	SUPPLY DEPOTS	ADVANCED STATIONS	TOTAL
Officers						
Commanding Officers	1	4	4	4	16	29
Medical Officers	1	4	12			17
Executive Officers	1	4				5
Supply Officers	1	4		12		17
Communications Officers	1	4				5
Aides	2					2
Line Officers					48	48
Total officers	7	20	16	16	64	123
Enlisted						
Staff Sergeants	3	12	12		48	75
Duty Sergeants			12	12	144	168
Corporals			24		394	418
Radio Operators	2	8	24		96	130
Privates			144	60	1,296	1,500
Total enlisted	5	20	216	72	1,978	2,291
Total corps	12	40	232	88	2,042	2,414
*Assigned**						
Doctors			24		48	72
Nurses			24		48	72
Nurses Aides			24		48	72
Motor Corps Drivers	4	6	94	48	192	344
Boy Scout Messengers	4	12	56	48	320	440
Total assigned	8	18	222	96	656	1,000
Automotive equipment†						
Staff Cars	2	4	8	8	16	38
Ambulances			8		16	24
Total automotive	2	4	16	8	32	62

* Assigned personnel will be called upon as required. Above list includes full complement for prolonged duty.

† Ambulances and staff cars are estimated on 24-hour duty basis.

MEDICAL PREPAREDNESS PROGRAM

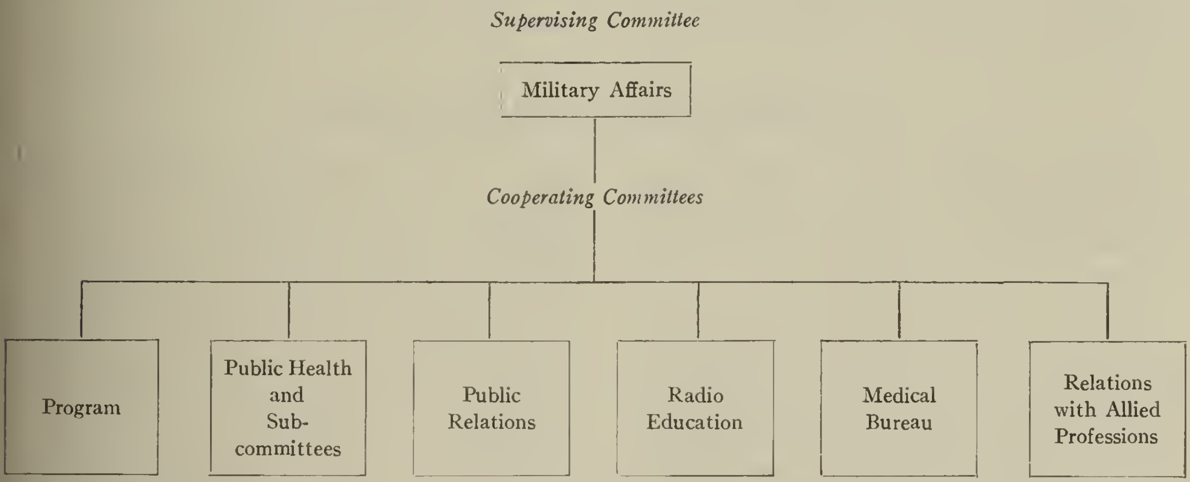
The following program was adopted by the Committee on Military Affairs of the Medical Society of the District of Columbia on July 21, and approved by the Executive Board on July 28.

Overshadowing all other Society projects in the coming months will be that relating to the National Defense Program, as shown by the organization chart. It will be noted that the Committee on Military Affairs is the supervising committee and that coöperating are the following committees: Program, Public Health and its subcommittees, Public Relations, Radio Education, Medical Bureau, and the Committee on Relations with the Pharmaceutical, Dental and Nursing Professions.

THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

1941—1942

ORGANIZATION PLAN MEDICAL PREPAREDNESS PROGRAM



The following program is tentatively suggested:

1. Coöperation with District Headquarters of the Selective Service System, the Medical Section of the District Defense Council, the local chapter of the American Red Cross, and the Medico-Chirurgical Society.

2. Approval of the prehabilitation program proposed by the Medical Advisory Council to National Headquarters of Selective Service, whereby registrants themselves may insure their own fitness and thereby qualify for military service.

3. Further investigation to determine qualifications and status of all physicians in the community so that defense needs can be adequately met.

If the above program is acceptable, coöperating committees will lend their assistance in the following manner:

PROGRAM COMMITTEE: From time to time this committee will, upon request of the Committee on Military Affairs, present scientific programs relating in some manner to the National Defense Program.

PUBLIC HEALTH AND SUBCOMMITTEES: All matters relating to the health of the civilian population will be referred by the Committee on Military Affairs to the Committee on Public Health or one of its subcommittees for study and recommendations.

PUBLIC RELATIONS: It is important that the public be kept informed regarding the activities of the Committee on Military Affairs. Releases will therefore be prepared from time to time for the press. If it is deemed advisable, special articles will be written for publication in the local newspapers.

Radio Education: There will undoubtedly be a number of occasions during the coming year when it will be desirable to broadcast over local radio stations. The type of broadcasts to be sponsored cannot be determined in advance and must be planned by the Committees on Radio Education and Military Affairs for special occasions.

Medical Bureau: The Bureau has already established itself as a valuable agency of the Society. It is at the present time rendering a real public service. Hundreds of persons in Washington are calling the Bureau for information about physicians and medical institutions.

The Bureau's primary function, of course, is to locate subscribing physicians for patients. In an emergency its facilities would prove of great value because its records relating to all members of the Society are most complete. If a list of physicians who would respond in an urgent situation, such as an attack upon Washington, was prepared, the Bureau could make immediate contact with the needed practitioners.

Relations with the Pharmaceutical, Dental and Nursing Professions: If the country should become actively engaged in war, the desirability of close contact with other professions relating to the care of the sick is essential. This committee could play a very important role in perfecting plans which would contribute to the efficiency of this work.

Conclusion: Due to the uncertainty of the war situation, the program here proposed may have to be broadened far beyond what has been suggested. At the time this is written, it seems adequate but the Society will have to be prepared to meet any emergency which may arise.

THE PREHABILITATION OF REGISTRANTS

The Medical Advisory Council of Selective Service offers here a simple plan whereby registrants themselves may insure their own fitness and thereby qualify themselves for military service.

We are now in the midst of a national emergency. War threatens us constantly. For purposes of defense, an Army is in the making. The Selective Service System has been charged with the procurement of men for this Army. The need is great,—some 16,500,000 men, between the ages of 21 and 36 years, have been registered. As their order numbers are reached such men must appear before their Local Boards for examination and classification, that is, for selection, deferment or rejection. In the event that the registrant is considered suitable by the Local Board (made up of civilians), he is sent up to the Army Induction Station, and taken into the ranks to become a soldier, provided he is acceptable and satisfies the physical, mental and moral requirements of the Army.

Only men who can meet high standards are acceptable to the Army. Only those are selected who are judged capable of standing up under a year's strenuous military training, subsequently serving efficiently for 10 years in the Reserve Corps of the Army. Of such men, the Army will require 800,000 this year, and 900,000 in each of the succeeding four years. These men should be of the type that can not only serve best the needs of the country as soldiers in the present emergency, but of the kind who may actually be benefited by military training and contacts, and who may exercise constructive patriotic leadership, such as will inspire national confidence.

From the foregoing it is evident that the country is attempting to select as soldiers only the very cream of its young manhood. Each and every individual is "hand picked," is critically inspected and carefully tested before he is admitted to the Army. Only the fit are selected as soldiers. It is obvious, therefore, under these conditions, that selection should be regarded as a stamp of efficiency, a signal honor, and as a distinct privilege.

To date the number of deferments and rejections have been large, so great indeed that considerable concern is evident in Selective Service, in the Army, and in the country as a whole. It is estimated that less than 15 per cent of the 16,500,000 registrants are being classed as available for general military service. This situation obviously calls for analysis and for the adoption of remedial measures.

It is estimated that approximately 5,000,000 have been classified and that more than 600,000 have been physically examined. Selective Service local boards at the present time are classing 20 per cent of those physically examined in Class IV-F as being totally disqualified for military service; 12 per cent in Class I-B as being fit for limited military service only, and 68 per cent in Class I-A as being qualified for general military service. Of the 68 per cent classed as being qualified for general military service and sent to the Army Induction Station, about 13 per cent are being rejected because of physical, mental, moral, administrative, and other reasons. This means that about 60 per cent of all registrants physically examined by the local boards are accepted into the Army.

The situation is at present a matter of national concern. Many questions are being asked and various solutions of the problem offered. The crucial questions are these. Why is so large a percentage of the youth of the country being rejected? Are these men really unfit—physically or mentally? What is the nature of the unfitness? What can be done to remedy the situation?

Criticism has been abundant and bitter and is on the increase. It has fallen upon Selective Service, and especially upon the Induction Boards, and upon the whole system of medical examination now in operation. Whether the criticism is justified or not is aside from the question. Obviously, some remedies are needed and something must be done to diminish the number of rejections, something to rehabilitate registrants suffering from remediable defects and, in addition, something to improve the physical condition of the youth and of the people of the country as a whole.

With this in view, the Medical Advisory Council of the Selective Service System offers this plan for prehabilitation of registrants. The project plans to prehabilitate registrants, and to have them recognize and remove their remediable defects prior to presenting themselves to their Local Board of Selective Service, or the Induction Board of the Army. The plan is simple, easily understood, can be readily carried out, and should result in a marked diminution in the percentage of rejections and a proportionate increase in the number of men inducted into the Army of those physically examined.

The plan provides that (1) registrants familiarize themselves with the physical standards required, (2) registrants apply to their local physicians and dentists if they fall short of the stipulated standards, (3) family physicians and dentists correct defects, if they are remediable, and that (4) registrants carry certificates of prehabilitation to Local and Induction Boards at the time they present themselves for examination.

The purposes of this plan are: (1) to afford the registrant participation in his own prehabilitation, (2) to select more suitable men and increase the number of inductions, (3) to improve national morale by decreasing the number of rejections, (4) to cultivate in the registrants the spirit of self-reliance, initiative and patriotism, and (5) to effect prehabilitation through maintaining the normal relationship of the patient to his family doctor and dentist.

The mechanism for effectively carrying out the plan is now largely set up and available. The sole additional requisites are: (1) an appropriate committee in each State representing all the participants (this should be a job for the Medical Advisory Council), (2) sufficient funds to support the educational program involved. Since, according to the plan, it will function through the medical and dental professions of the country, the support of these two professions is definitely assured.

The program of education involves the dissemination of information to the 16,500,000 registrants concerned, and to all the members of the medical and dental professions. This can be done by preparing and distributing special pamphlets epitomizing the physical requirements, and by publicizing all pertinent information by the press (lay and professional), by the radio, by the pulpit, and by means of moving pictures. This program will need the support of educational, health, military and religious organizations throughout the entire country. The approach to prehabilitation must be made on a national basis.

So far as the registrant is concerned, he need only familiarize himself with the medical and dental requirements and present himself for advice and treatment to his local doctor or dentist, in the event that he feels that he falls short of the designated requirements. The family doctor, being familiar with the registrant's family background, his past illnesses and his personal attributes, is the man par excellence to determine the nature and the significance of the defects, and to advise the best as to what, if anything, should be done.

Likewise, the family doctor and dentist are in the best position to remedy the existing defects, if they are readily remediable. If, however, of a more serious nature, the doctor—being thoroughly familiar with the registrant's physical, mental, moral and financial status, and also with the professional personnel, and with the hospital and institutional facilities of the locale—can best direct the registrant to the proper medical service, be it a free or pay, medical or dental clinic. In other words, the family doctor and dentist can remedy existing defects themselves, if easy of remedy, or can direct the registrant to the best local source for the particular professional service to be found in the immediate locality.

Presentation of a certificate of prehabilitation by the registrant to the Local and Induction Boards will indicate his desire to serve his country in its time of need. After this plan has been put into effect, those who appear before these various boards and are found suffering from remediable defects will reveal thereby their personal failure to do their part in the National Preparedness Program. The possession of a certificate of prehabilitation on the other hand will tend to indicate character and the possession of desirable qualities: intelligence, forethought, initiative, fitness, and a desire to serve, all of which must go into the making of a good soldier. Such a certificate will connote esprit de corps, morale, and the will to succeed. Above all else, an Army needs morale, that intangible something that leads to ultimate achievement—such morale as has characterized the Armies of the United States.

It is hoped that this plan of prehabilitation will make a deep appeal to and have the support of the registrants themselves, their families and the nation. It should serve to diminish the number of rejections, with all the attendant humiliation and inconvenience involved. It should give him a plus instead of a negative mark. It should stamp many registrants with the mark of success instead of the sign of failure. Above all, it should bring into the Army more and better soldiers: men who have helped to prepare themselves and are eager and willing to defend their homes, their country and their democracy.

The following physicians have been recommended by the Committee on Military Affairs for appointment to Selective Service boards in the District of Columbia:

Examining Physicians:

District No. 2	Leon A. Martel
	Karl C. Corley
District No. 8	Crenshaw D. Briggs
District No. 9	Walter K. Myers
District No. 10	A. J. Connolly
District No. 13	Samuel Dessoff
	Daniel Sondheimer
District No. 14	Hill Carter
	Theodore J. Abernethy
District No. 18	Samuel M. Bageant
District No. 22	Andrew K. Bowie
	Christopher J. Murphy

Medical Advisory Board (A):

Psychiatrist	Raymond K. Foxwell
	Samuel A. Silk
Ophthalmologist	Edward J. Cummings
	Inez E. Wilber

Medical Advisory Board (B):

Psychiatrist	Ernest E. Hadley
	Edgar D. Griffin
Ophthalmologist	C. R. Naples
	Robert F. Costello

Medical Advisory Board (C):

Psychiatrist	Alexander Simon
	J. Louis Hoffman
Ophthalmologist	Benjamin Rones
	Norman P. Scala

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Word has just reached the Society's office that Drs. Oscar H. Fulcher, Alfred E. Meisenbach, Jr. and John B. Smith are in military service.

NEWS AND PERSONALS

The American Congress of Physical Therapy, in conjunction with the **American Occupational Therapy Association,** will hold its **Twentieth Annual Scientific and Clinical Session** at the Mayflower Hotel, Washington, September 1, 2, 3, 4 and 5. Each morning will be devoted to an intensive review course in physical therapy and the afternoons and evenings to papers and addresses covering various phases of physical medicine. Every physician in Washington, whether he is a member of the Congress or not, is invited to attend all sessions. While there is a charge for instruction lectures given during the morning period, there is no fee for attendance during the afternoon and evening. Technicians and non-medical assistants, nurses and hospital administrators are invited to attend all scientific sessions.

It is the purpose of the Congress to acquaint the general medical profession with the fundamentals as well as the newer advances in the uses of light, heat, electricity and other physical agents in the treatment of disease. There will be lectures on short wave diathermy and on the application of physical medicine in orthopedics, peripheral vascular disease, arthritis, infantile paralysis, and other subjects of general interest.

The Chairman of the local committee is Dr. Emil J. C. Hildenbrand, Garfield Hospital, to whom inquiries pertaining to the convention should be directed. Local physicians participating in the program are Drs. G. J. P. Barger, Darrell C. Crain, Hugh J. Davis, Watson W. Eldridge, O. Anderson Engh, Russell J. Fields, Daniel L. Finucane, Henry B. Gwynn, Custis Lee Hall, Frank M. Hand, Emil J. C. Hildenbrand, Isadore Levin, Winfred Overholser, J. Winthrop Peabody, George C. Ruhland, Walter O. Teichmann, J. Ross Veal, Col. Norman Kirk and Capt. B. A. Strickland of the U. S. Army, and Capt. C. S. Stephenson of the U. S. Navy. Dr. Walter A Bloedorn, Dean of George Washington University School of Medicine, and Rev. David V. McCauley, S.J., Dean of Georgetown University School of Medicine, will deliver addresses of welcome.

Scientific exhibits will be sponsored by local organizations and physicians, as follows: Washington Society for the Hard of Hearing; District Health Department, Bureau of Maternal and Child Welfare, Handicapped Children's Unit; Volta Bureau; Veterans' Administration; Drs. Philip A. Caulfield and Otmar Solnitsky, Department of Anatomy, Georgetown University School of Medicine; Dr. Isadore Levin, Physical Therapy Department, Doctors Hospital; Drs. J. Ross Veal and Hugh Hudson Hussey, Gallinger Hospital and Georgetown University School of Medicine; Capt. B. A. Strickland, Walter Reed General Hospital, Army Medical Center.

The following local committees have been appointed:

Reception: Dr. Frank S. Horvath, *Chairman;* Drs. G. J. P. Barger, Henry B. Gwynn, Emil J. C. Hildenbrand, Isadore Levin, Frank M. McChesney.

Publicity: Dr. Henry B. Gwynn, *Chairman;* Dr. G. J. P. Barger.

Hospital Tours: Dr. Frank M. McChesney, *Chairman;* Dr. Isadore Levin.

Ladies Auxiliary: Mrs. Henry B. Gwynn, *Chairman;* Mmes. G. J. P. Barger, Emil J. C. Hildenbrand, Isadore Levin, Frank M. McChesney.

The American Bureau for Medical Aid to China has opened a special department at 1790 Broadway, New York City, where American doctors and nurses can apply for service in China. Surgeons, doctors, nurses, pharmacists, ambulance drivers and medical assistants are eligible to serve in the American Relief Corps in China.

Under a plan recently adopted, the American Red Cross and United China Relief, who are now conducting a national campaign for $5,000,000 to provide relief to China, will coördinate their activities with those of the American Bureau for Medical Aid to China. The American Red Cross will handle all transport of medical supplies across the Pacific and over the Burma Road to Free China. The Red Cross has also reached an agreement with the Medical Relief Corps of the Chinese Red Cross to furnish all standard medical supplies for the next year, and to help meet medical emergency needs as they arise. The Bureau has undertaken to supply all personnel needs, to recruit Chinese doctors living abroad for service in the Chinese Medical Corps, to equip and support the special emergency training centers in China for medical aides, and to assist the Chinese National Health Administration in its anti-epidemic control plan.

Expenditure of a total of $228,721 was voted July 15 at a meeting of the Executive Committee of the American Bureau for Medical Aid to China. These funds will be used for the purchase of drugs and vaccines, support of the Chinese Central Orthopedic Hospital at Kweiyang, and the rehabilitation of disabled and crippled soldiers and civilians in war-torn areas of Free China. Financial aid will also be directed toward the support and equipment of the Central Emergency Medical Training School at Kweiyang; the establishment and support of a number of decentralized emergency medical training schools, an Army Nurses Training School at Kweiyang, two branch nurses training schools in war areas, two branch orthopedic hospitals and a central library needed by these hospitals in their training work; and the purchase of machine tools for transport repair shops for the Chinese Medical Relief Corps.

The Annual Meeting of the American Association for the Study of Neoplastic Diseases will be held in the Kellogg Building, Garfield Hospital, September 4–6, 1941. Discussion at the sessions will relate to lesions of the bone, female genital system, breast, gastrointestinal tract, lungs and respiratory passages, and lesions of the lymphoid, myeloid, and reticuloendothelial systems. Scientific exhibits will be a feature of the meeting. Physicians wishing to exhibit should communicate with **Dr. Janvier W. Lindsay,** Garfield Hospital. Dr. Lindsay is also Chairman of the Banquet Committee. General information regarding the meeting may be secured by writing the Secretary of the Association, **Dr. Eugene R. Whitmore,** 2139 Wyoming Ave., N. W.

The Medical College of Virginia is holding a luncheon October 2 at the Mayflower Hotel during the Annual Scientific Assembly. Arrangements are being made by **Dr. William A. Morgan,** 1835 Eye Street, N. W.

The Section on Ophthalmology, Otology, Rhinology and Laryngology has elected the following officers to serve during the coming year:

Dr. Elmer R. Shepherd, *Chairman;* Dr. P. S. Constantinople, *Vice Chairman;* Dr. Victor R. Alfaro, *Secretary;* Dr. John H. Trinder, *Treasurer.*

The Section on Pediatrics has also elected new officers:

Dr. James M. Moser, *Chairman;* Dr. Edward Lewis, *Vice Chairman;* Dr. William A. Howard, *Secretary-Treasurer;* Drs. Preston A. McLendon and Hugh J. Davis, *Executive Committee.*

The Medical Field Service School at Carlisle Barracks, Pa., held graduation ceremonies July 23 for 16 members of the Reserve Officers Training Corps from the Washington area. These graduates are now candidates for commissions in the Army Medical Corps.

The National Foundation for Infantile Paralysis announced on July 23 that the District of Columbia ranked eighth among the ten leading states in the amount of money collected during the President's Birthday Celebration. The national total raised during the 1941 campaign was $2,104,460.

Dr. William Thornwall Davis delivered three lectures before the Los Angeles County Society of Ophthalmology and Otolaryngology in Los Angeles, California, on July 26. The titles of his lectures were "Differential Diagnosis of Squint and the Phorias," "The Treatment of Accommodative Squint," and "Disorders of Vertical Motility."

Dr. Roy L. Sexton and Dr. Daniel L. Seckinger participated in a radio broadcast June 25 which outlined the health projects being conducted by the Work Projects Administration in the District of Columbia. This program was one of a weekly series which the W.P.A. is sponsoring over Station WINX.

Dr. Benjamin F. Dean, Jr., was appointed by the District Commissioners on June 25 to serve as a member of the Board of Police and Fire Surgeons while **Dr. Daniel L. Borden,** Chairman, is on active military duty. **Dr. John A. Reed,** Secretary of the Board, was named Chairman during Dr. Borden's absence, and **Dr. James A. O'Keeffe** was designated Secretary until Dr. Reed returns to that office.

BOOKS RECEIVED FOR REVIEW

Acknowledgment is made of the following books which have recently been received for review:

Orbital Tumors. Walter E. Dandy, Adjunct Professor of Neurological Surgery, Johns Hopkins University. Pp. 168. Price, cloth, $5.00. New York: Oskar Piest, 1941.

X-Ray Therapy of Chronic Arthritis. Karl Goldhamer, Associate Roentgenologist, St. Mary's Hospital and Quincy X-Ray and Radium Laboratories; formerly Roentgenologist, University of Vienna. Pp. 131. Price, cloth, $2.00. Quincy, Ill.: Radiologic Review Publishing Co., 1941.

Infantile Paralysis. A Symposium Delivered at Vanderbilt University. Pp. 239. Price, cloth, $1.25. New York: National Foundation for Infantile Paralysis, 1941.

Doctors Don't Believe It—Why Should You? Facts and Fallacies about Health with Practical Guidance for the Layman. August Thomen, M.D. Pp. 384. Price, cloth, $2.50. New York: Simon and Schuster, 1941.

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MENTAL HYGIENE AND PSYCHIATRY*

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The past half century marks a period of tremendous progress in the advancement of the understanding of man and his environment. In this, many of the sciences have participated. It is self-evident that psychiatry, being a biologic and social science with many medical implications, should have drawn from many of these areas. For example, although there can be no clear-cut distinction between man and his environment, since with the passage of time elements of the latter having survival values become incorporated in the race and hence are passed on, there are sociologic problems and political disturbances such as economic stress and war which become expressed in physical disturbances and emotional discomforts. Likewise, the researches and investigations of a long line of scientists have demonstrated that physical symptoms and illness often are the expression, on the physical level, of intrapsychic difficulties. Psychosomatic medicine is concerned with aspects of respiratory, gastrointestinal, circulatory, and other disturbances as disease processes in terms of the total person of the patient.

There has been a steady trend in the direction of making less and fewer clear-cut distinctions than formerly between organic and functional etiology. It is very likely that with the advancement of knowledge there will be more and more a point of view that will give consideration to man in his totality. This is suggested by many observable data. Experience during the World War clearly demonstrated that a wide variety of physical symptoms occurred in young, healthy men without demonstrable injury or disease. The same is true of civilians. That they are called neuroses is, for the moment, beside the point. Again, the relationship between physique and character as developed by Kretschmer has led to very significant speculations.

For reasons not yet understood those persons with asthenic, athletic and dysplastic physiques tend in their temperament toward an introspective make-up and the pyknic physique toward a cyclothymic one. Moreover, the former, in the event of a psychosis, tend toward the schizophrenic type, and the latter toward the manic-depressive group. And finally, disease processes in the dementia praecox group show a predilection for regressive types such as tuberculosis, whereas in the manic-depressive group compensatory forms such as carcinoma are observed.

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* Chairman's Address before the Section on Neurology and Psychiatry of the Society, May 1, 1941.

It is also somewhat to be questioned that the development of mental symptoms following upon a head injury necessarily represents a causal relationship. When one notes the enormous numbers of head injuries it is significant that only a small percentage develop the peculiar psychiatric conditions of traumatic constitution. Leaving aside the doubtful relevance of the extent of injury sustained, this phenomenon is not yet clearly to be explained on the basis of our present knowledge.

Finally, there is considerable evidence that the affectional or love difficulties between parent and child are detrimental to the latter. This state of affairs is believed to be significant to the development of schizophrenia and to delinquency. Just what factors or explanations account for this variance in response remain unclear.

These various points, to mention only a few, give importance to the necessity of viewing the human organism as a vastly complex entity. It is increasingly doubtful that cause and effect relationships in the ills of mankind are so readily established as we have heretofore believed. We are familiar with the fact that all persons offer some kind of explanation for their symptoms, difficulties and problems. To be sure, they have some validity in instances. However, it is amazing to what extent the more valid ones are covered up. Headaches are attributed to this and nervous breakdowns to that. The psychiatric expert, however, can help the person to get past these all too obvious reasons to the more basic albeit disturbing ones and assist him in dealing with them without the necessity of symptoms. The man with a so-called inferiority complex will say that being with people makes him feel uncomfortable, in the sense that they somehow account for him being unsocial and solitary. Actually this is a phenomenon secondary in its effects to a primary problem within himself possibly emerging out of the area of significant relationships earlier in life. We know, for example, that a child who is continually found fault with, however well intentioned the criticism may have been, may come to feel that he is no good. In later years this is revealed in his uncomfortable social relationships. One sees here the necessity of locating the sources of the difficulty and the ways in which it came about and developing a treatment program around them.

As for the factor of heredity, it may be well to quote the late Dr. William A. White, who in his "Twentieth Century Psychiatry" says, "What really happens in the living organism is that everything is hereditary and everything is environmental, depending upon which facet of the many faceted crystal of life one may choose to contemplate. Heredity represents the limitations which past experience, as it has been laid down in the phylum, imposes upon the growing, evolving organism. Environment represents the possibilities, or their absence, dependent upon the stimuli which may or may not be projected upon the growing organism and result or not in the stimulation of potentialities which are resident therein. . . . . Constitution is not necessarily the fatalistic thing many consider it." No one, for example, would doubt the concept of adjustment and adaptation. Surely this means that the individual has certain potential capacities. It would seem, then, in spite of much yet to be learned about the human organism, that it may be admissible to suggest that whatever enhances the capacity of the individual to utilize his potential capacity to adapt himself to the exigencies of living, in a broad sense, may have values beyond the self, although one must bear in mind that man is a biologic and a social creature and that his difficulties do not remain circumscribed within himself.

Beginning with Freud, Breuer, Charcot, and others some fifty years ago, their work on hysteria opened a new era of understanding of the human personality and its ways. On the foundation laid down in those years, and since, and greatly extended by Freud and others, there has been elaborated the modern dynamic concept of psychiatry. Connections between the psychic, emotional, and somatic aspects of the organism were further developed by physiologists among others. The psychobiologic concept of Meyer and the consideration of the organism in its totality as a basis of interpreting what goes on within the individual still further accounted for the broad bases upon which to account for human phenomena. More and more these phenomena, whether social, physical or mental, are being approached from the standpoint of the individual in his total setting. The duodenal ulcer, the anxiety state, or the delinquent all are studied and dealt with on the basis of the total self and not as a purely physical condition, a mental state or a social problem, respectively. One attempts, in other words, to gain an understanding of all the processes whereby the person came to show symptoms.

Psychiatric exploration and therapy attempt not only to locate conflicts but the manner in which they developed and the patient's response to them. The final phase is that of helping the patient to deal more adequately with them than before. Of greatest importance, then, is the conception of an individual with his potentialities and constitutional nature at birth and the processes, including those of repression and types of response to persons and situational experience as they influence the developing personality. For obvious reasons, childhood becomes the most important period of life. Of all influences bearing upon the growing organism, none surpasses in importance the area involving human interrelationships in which parents and other significant persons such as relatives and teachers play a very important role. This area has been particularly elucidated by Sullivan. The quality and nature of the individual's subsequent dealings with persons and situations stem in large measure from this.

With this in mind, efforts in promoting mental health have come to be viewed in terms of the prevention of symptoms and conditions involving people, whether behavior problems, neurotic or psychotic manifestations. Although the mental hygiene movement has not realized these goals, like all new efforts it has seen a growing shift from the concept of prevention to what Dr. White described "a positive program for life well lived, for mental health because of its values and not because of what it avoids."

Such a program, because of its wide ramifications, will of necessity touch upon many facets of the individual's life and those institutions through which a society hopes to encourage healthy bodies and healthy characters. Not alone the home but also the fields of medicine, law, education and religion become involved in this enterprise. In all these, psychiatry can and should play a more leading role. A closer rapprochement between the specialty of psychiatry and the practice of medicine becomes necessary. As a step in this direction one notes an increasing importance given psychiatry in medical school curricula. However, only a step has been taken. The physician, because of his importance in the affairs of the family, is more than a minister to the physical illness of its members. Particularly is this of importance in the specialty of pediatrics, although it also holds true of the others. Psychiatric language and formulations must become more meaningful before they are accepted and therefore utilized. Where this has been effected, physicians have shown interest in and profited from these technics.

Law reflects the thinking and the needs of the social group. In its interpretation and administration some healthy trends are being observed. The modern juvenile court dealing with delinquents on a clinical rather than punitive basis is evidence of this. In some of the lower courts there is a disposition to treat offenses with some consideration of the offender as a person and the circumstances accounting for his behavior. These courts are requesting assistance in the handling of large numbers of alcoholics with which the law can never deal effectively. Psychiatry has offered something although not a great deal in spite of the fact that this problem has so many psychiatric implications. In the case of felonies and the more serious offenses, rules of procedure are such as effectively to prevent understandings and insights which might be the basis upon which genuinely "reforming" treatment plans could be developed.

Education and the educative process importantly influence the child during the formative years of his life. The school is next to the home in significance. Its purely academic aspect is overshadowed by experience that will promote, retard, or misdirect the pupil in the many areas of personality adjustment. The importance of teachers, administrators and boards of education cannot be overestimated. Each in significant ways has a responsibility for the future welfare of the group, because the children of today will be the men and women of tomorrow. Psychiatry, even within the limits of its present knowledge, can offer valuable aids in the promotion of a serviceable and enriched life experience within the area of education if it chooses to exercise greater leadership. And finally, it would be well to give more consideration than it has to the role which religion plays in the life of a people. That such a fundamental need of man should have received so little attention from psychiatry is a problem which psychiatrists must honestly answer to themselves.

Just as it is reasonably clear that man must be viewed in his totality if a broad understanding of him is ever to be achieved, so the collaboration of psychiatry with the other sciences and social structures dealing with human phenomena should be promoted. Psychiatry has an important role to fulfill in these matters. It can do much to alleviate persons beset by the problems of living which have become difficult or impossible for them. Likewise, mental hygiene, dealing as it must with so many facets of the human being, holds promise of the encouragement of healthier modes of action and therefore mental health.

A.M.A. Journal again issues warning on dangers of gold treatment. Another warning against the indiscriminate use of gold treatment is made by *The Journal of the American Medical Association* for August 2, 1941, which says:

"Inquiries which come to *The Journal* and to the Council on Pharmacy and Chemistry indicate that promotional activities for the use of gold preparations are not quiescent. Gold preparations have been offered for oral, intramuscular, intravenous and topical use, the latter as a nasal instillant, gargle, paste, cream or suspension. . . . An example of the exaggerated and misleading claims not infrequently encountered is cited in a report by the Council on Pharmacy and Chemistry. This report relates to a colloidal gold preparation promoted for therapeutic use in the treatment of cancer.

"The dangers of chrysotherapy make it evident that this type of therapy should be undertaken only by those who have had extensive experience and who are fully aware of the dangers."

The Journal goes on to enumerate some of the untoward reactions which have been reported. These include such conditions as a generalized inflammation of the skin, ulceration of the mouth, stomach and the upper part of the intestines, nausea and vomiting, fever, deafness, delirium, impairment of the liver, inflammation of the kidneys, prostration and death.

The Council on Pharmacy and Chemistry recognizes the use of some gold preparations only in the therapy of lupus erythematosus.

"The Council recently reviewed the recent publications on chrysotherapy in rheumatoid arthritis. These reports appeared to indicate that, when careful histories were taken, reactions ranging from a mild to a severe character occurred in almost half of the treated patients. As regards the therapeutic outcome, the percentage of reported 'cures' is appreciably lower in the United States than in foreign countries. Again, it has been stated that great relief has been obtained in only 10 to 35 per cent of the cases, according to American reports, contrasting with 50 to 70 per cent reported in foreign publications.

"Do the results warrant the risks? Many European workers believe that gold salts for rheumatoid arthritis are worthy of trial; but the majority of the more cautious American investigators adopt a conservative attitude about more general employment of aurotherapy. In the opinion of the Council on Pharmacy and Chemistry there do not appear to be sufficient controlled data to warrant recognition of the use of gold salts for other than selected cases of lupus erythematosus. The precise way in which gold acts is not known, and complete success with this form of therapy may be considered highly problematic. Again, a careful search for possible contraindications must always be made prior to institution of treatment. In view of the dangerous possibilities, the definite place of aurotherapy in rheumatoid arthritis remains controversial."

VENEREAL DISEASE CONTROL THROUGH PUBLIC HEALTH FACILITIES

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Sporadically, one may read here and there a lamentation to the effect that neither education nor prophylaxis has so far succeeded in reducing the prevalence of syphilis or gonorrhea in civilized groups. To concede this view is to admit that the present facilities of prophylaxis and treatment are inadequate or the educational methods employed are chiefly too prosaic for acceptance by a canaille intelligence.

Either postulation is illogical. Percentage estimates of venereal cases among the population are hardly statistical and cannot be applied as a yardstick by which to measure the prevalence of these diseases. Approximately 500,000 persons each year discover through serologic tests that they are afflicted with syphilis, and it is because of the coördinated educational efforts of public health workers that these cases are being discovered. It would argue therefore that since there is ample clinical evidence of the efficacy of specific treatment, the prevalence of syphilis, at least, is on the decline.

In the prevention of venereal diseases the same principles apply as in other communicable diseases, except that in the former many more complications are presented because of their close association with the problems of prostitution, sex, morality and alcohol, which pervade the whole structure of society. The same measures which have caused a decline in other communicable diseases are less effective in venereal infections, mainly because they do not stop the basic urge which underlies their prevalence. The program must take into account that we are dealing with primitive, natural passion, which is the greatest force for good when used according to the laws of nature, and may result in grievous consequences when these laws are transgressed. Venereal diseases are among the most widespread and universal of all human ills, marring more domestic happiness than any of the others known to man.

The general attitude toward venereal diseases is often inconsistent. There is a natural aversion toward these afflictions, and control is bound to be retarded so long as these diseases are regarded as punishment for sin. The immediate problem is the prevention of spread of further infection, and a person afflicted with a venereal disease should be treated with the same humane interest that is shown in the treatment of other afflictions. Successful control depends largely upon the understanding of this factor, not only by the general public but by private physicians, agencies and hospitals as well. There are still some hospitals who will refuse admittance to a case of syphilis or gonorrhea during the acute stages, when the diseases are especially communicable.

Through public health facilities these barriers are slowly but surely being broken down. The program of education has found its way into the curriculum of nearly every public school. To the same educational process we owe the transition whereby the topic of venereal diseases, once tabooed as a vulgarity, may now be openly discussed in polite society.

This splendid achievement can be credited to the fact that the teachers, leaders and organizers of the movement have themselves possessed an interest based upon accurate medical and public health knowledge. They have successfully brought about the coördination of the work of members of the health departments as well as the active assistance of the medical profession.

The private physician plays a very important role in venereal disease control. He knows the community health needs more than anyone else and he commands public confidence. The physician-patient relationship has been a most important factor in making the community venereal-disease conscious. The private physician has firmly implanted the knowledge that syphilis can be cured in 80 per cent of the cases, and he is the instrumentality by which the medical charlatan and fake nostrums are gradually approaching extinction.

The physician has a further responsibility to the community. It is his duty to obtain the source of his patient's infection, with all exposed contacts. They must be found with the aid of the health department if necessary and treated so as to prevent the spread of infection.

As a measure to ultimately stamp out syphilis every physical examination done by the physician should include a serologic test, and complete diagnostic facilities should be placed in his hands without charge by the health department if necessary. Arsenicals should also be furnished him, either free of charge or at a minimum of cost.

Clinics established by the health departments should be staffed with personnel of the temperament vitally interested in seeing these diseases stamped out, and trained to be sympathetic in their approach. They should be hand-picked for personality, and their ability to win the confidence of those who are sources of infection and contacts so that these persons might more willingly submit to examination and treatment. A competent director of venereal disease clinics will constantly coach and encourage his staff in their work and put sufficient energy and enthusiasm into his own duties so that it might be communicated to his subordinates.

In the control and treatment of syphilis there are two very important phases. The first is the persistent follow-up of sources and contacts, and the second is the intelligent and humane treatment of the patient at the clinic. The patient should be accorded kind and understanding treatment and made to feel that there is nothing to fear or be ashamed of. Adequate legislation should be provided for use only as a last resort as a means to place such individuals as refuse treatment and are otherwise uncoöperative under control.

To this end the program for control should include:

1. Easily available diagnostic service for the general populace:
   (a) Dark-field examination
   (b) Serologic examination
2. Follow-up to retain the patient under treatment until he has been rendered noninfectious
3. Case finding and the follow-up of infections to the source, and treatment of all contacts
4. Treatment of the infectious patient until a minimum of 30 arsenical and 40 heavy metal injections have been administered, for complete immunization
5. Facilities to aid physicians in diagnosis and management of patients:
   (a) Consultation service (fluoroscopy, etc.)
   (b) Free drugs
   (c) Adequate follow-up
   (d) Legislation

In the epidemiology of venereal diseases it is important to discover every source of infection in the community and to secure the coöperation of private physicians in this work. Every effort should be made to encourage private physicians, hospitals and clinics to search out sources of infection as well as all contacts, and bring them under control. The health department should wholeheartedly assist in this program and assume all responsibility for this epidemiologic work. In syphilis, the persistent follow-up and adequate treatment in the early stages is especially important because the sources are most likely recent infections. Early diagnosis and prompt intensive treatment in pregnancy are equally important to stem the tide of congenital syphilis.

Wherever possible in serologic examinations, both Kahn and Wassermann reactions should be checked against each other, or comparisons made with the findings of two laboratories. These findings should be interpreted as positive, doubtful, or negative, as the case may be, without emphasis to degree. The treatment in positive findings should be measured by its intensity and duration. It must be continuous, with blood tests and spinal fluid tests made at intervals in order to ascertain progress. Considerably more emphasis should be placed upon serologic tests in premarital examinations as well as routine examinations for syphilis of every pregnant woman.

The incidence in gonorrhea is much higher than that of syphilis. There are over a million acute cases of the former reported annually in the United States and nearly half that number are constantly under medical care. The female is the most frequent carrier of this disease and the protracted course of gonorrhea in this sex presents one of our serious epidemiologic problems.

The treatment for gonorrhea has been far from satisfactory, and until more recently the problem has been a discouraging one. With the advent of the new sulfonamide compounds, however, great promise is held. Of particular significance in this connection is the clinical evidence of immunization offered by their use. At the present time sulfathiazole seems to be the most effective. It exhibits an effect comparable to that of the arsenicals in the treatment of syphilis, and it is definitely less toxic than its forerunners, sulfanilamide and sulfapyridine.

Sulfathiazole is being used routinely at the District of Columbia Jail in all gonococcal infections, and the results achieved have been most gratifying. Since these cases are constantly under my observation they can be evaluated with much more accuracy than those at outpatient clinics. I have noticed a marked decrease of complicating factors such as salpingitis, epididymitis, etc., in all cases treated with sulfathiazole, and cultures have shown that in each instance the use of this drug rendered the patient noninfectious. It has been observed that positive cultures could not be obtained after treatment with sulfathiazole for more than five days.

In the treatment of the other venereal diseases, sulfonamide compounds have also demonstrated their efficiency. With reference to the incidence in such cases at the District Jail, a decline has been noted during the past year which may be attributed to the general use of the sulfonamides in outside clinics. For nearly a year I have been using an oxidizing agent applied to lesions in chancroidal infections, and in each instance these infections have cleared up within periods averaging a week. While this method has been employed for too short a time to enable me to draw any final conclusions, there are indications that it may prove of great value in the treatment of these conditions. Comparative studies with the local application of sulfanilamide have shown this oxidizing agent to shorten the course of the disease.

In treatment of venereal diseases, early discovery of infection and prompt and competent treatment offer the best hope for control, and every health program should lend itself to inducing more persons to submit to serologic tests. A united effort for a National Health Week, having as its sole purpose the making of blood examinations, would be productive of results and might prove that the goal of every health worker to wipe out these social diseases is not an unobtainable objective.

Alkali helps reduce complications of sulfathiazole. The administration of an alkali. such as sodium bicarbonate, with sulfathiazole, and possibly also with sulfadiazine, two derivatives of sulfanilamide, is advised by LEON SCHWARTZ, M.D.; HARRISON F. FLIPPIN, M.D.; JOHN G. REINHOLD, PH.D., AND ALBERT H. DOMM, M.D., Philadelphia, in *The Journal of the American Medical Association* for August 16, 1941, as a means of decreasing the incidence and number of crystals of these drugs in the urine.

The four men point out that recent medical literature contains many reports of bloody urine, deficient secretion of urine, urinary stones and other complications associated with the use of these drugs. These kidney complications are due, in part if not entirely, to the presence of crystals of these drugs in the urinary tract and some of them necessitate a discontinuance of administration of the drug at a time when treatment is most desired.

To ascertain the effect of alkali on the incidence and number of crystals detected in the urine of patients receiving sulfathiazole or sulfadiazine, the four investigators administered sodium bicarbonate in an amount equal to that of the drug to 37 pneumonia patients and compared the urinary findings with those of 63 pneumonia patients who were not given an alkali. The incidence and number of crystals of the drug found in the urine samples were distinctly less in the group of patients receiving an alkali together with either sulfathiazole or sulfadiazine, particularly with the group receiving an alkali with sulfathiazole.

THE NORMAL ELECTROSTETHOGRAM

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The purpose of this paper is to review briefly the essential facts gathered from personal experience with electrostethography and to compare them with similar studies made by others. It has been rather generally assumed in the literature that the interpretation of heart sound records is a comparatively simple matter. This is not true, even in the hands of an experienced worker. Most of the recent reports, such as those of Johnston,[1] Cossio and Braun-Menéndez,[2] Sabathie,[3] Duchosal,[4] McKee,[5] Battro and Braun-Menéndez,[6] and others have dealt with specialized studies of specific types of heart pathology and have referred only incidentally to the normal record. McKee,[7] Pereira,[8] Sacks and Roberts,[9] Dini and Mattoli,[10] Dock,[11] Williams,[12] and Braun-Menéndez[13] have described the normal record, particularly the last, whose recent book deals extensively with that subject.

Many new types of apparatus have been described in recent years for the recording of the heart sounds. The most recent is that of Boone,[14] who devised an amplifier for the recording of heart sounds through the use of the cathode-ray tube. Other recording devices were described by Lockhart,[15] Sacks, Marquis and Blumenthal,[16] Johnston,[1] Feltenstein and Schwarzschild,[17] and Bierring, Bone and Lockhart,[18] and others. The type of apparatus employed naturally influences to a certain extent the type of tracing obtained. The results obtained by all modern methods are, however, sufficiently similar to be compared. One of the greatest difficulties in the recording of heart sounds is that the graph does not always agree with auscultation. Most stethographs record very well sounds whose frequency is below 100 cycles per second, but in those above this frequency the graph becomes more difficult to read. Feltenstein and Schwarzschild[17] attempted to overcome this difficulty, and in their apparatus distortion was introduced into the electrical system of the recorder in order to stress these higher frequencies in the same way as the average ear does. In the apparatus used by us a special logarithmic microphone is provided so that the record may be made to agree with auscultation if these higher frequencies are present.* The sounds are distorted through this microphone to auscultation, but the graphic record shows the sounds as they are perceived by the brain. The regular microphone represents the sounds as they are present on the chest.

The normal records studied by us were made on patients who were free from heart disease as far as we were able to determine. The analysis of an electrostethographic record does not depend on a simple visual study of the tracing. Orías and Braun-Menéndez,[13] who have made a very intensive study of the heart sounds, feel that the proper analysis of a phonocardiographic record should include the following points:

1. Number of sounds per cardiac cycle
2. Uniformity in the number of sounds in different cycles
3. Characteristics of the different sounds in different cycles with reference to:
   (a) General morphologic characteristics
   (b) Duration
   (c) Relative amplitude
   (d) Frequency of the vibrations

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* Developed by Sanborn Company at the suggestion of Dr. Harold N. Segall of Montreal, and others, and first discussed at a meeting of the New England Heart Association on January 29, 1940, by Dr. J. E. F. Riseman and Maurice Rappaport in a paper entitled, "Logarithmic Recording: A Standardized Method for Recording Heart Sounds."

4. Uniformity or diversity of the characteristics of the different sounds in the different cycles
5. Characteristics in relation to the areas explored
6. Principal time relations with the events of the reference tracings.

Such a complete survey is hardly practical or necessary in ordinary clinical work. For routine use we have devised a simplified form for writing reports (fig. 1). This gives all of the information which is of value clinically and if used routinely will provide a basis for a much more extensive study of the normal heart sounds than we can now make.

REPORT OF ELECTROSTETHOGRAM

Patient: Date:

Clinic No: Microphone Used:

Volume Control Setting:

Mitral Area:

1st Sound	D.	F.	A.
2nd Sound	D.	F.	A.
3rd Sound	D.	F.	A.

Murmur:

Pulmonary Area:

1st Sound	D.	F.	A.
2nd Sound	D.	F.	A.
3rd Sound	D.	F.	A.

Murmur:

Aortic Area:

1st Sound	D.	F.	A.
2nd Sound	D.	F.	A.
3rd Sound	D.	F.	A.

Murmur:

Tricuspid Area:

1st Sound	D.	F.	A.
2nd Sound	D.	F.	A.
3rd Sound	D.	F.	A.

Murmur:

Key: D.—duration in seconds
F.—vibrations per beat
A.—amplitude

FIG. 1. Record form for electrostethogram

In figure 2 is shown a schematic diagram of the stethographic portion of the apparatus which we employed.* It consists of a piezoelectric or crystal type microphone which converts the heart sounds into equivalent electrical pulsations. The microphone employs 5 different types of chest pieces for filtering effects. The minute electrical pulsations produced in the microphone are then amplified by an electronic type amplifier to any desired degree, which is regulated by means of a volume control.

The output of the amplifier then feeds into a matching transformer which in turn feeds both the audiophones and recording galvanometer.

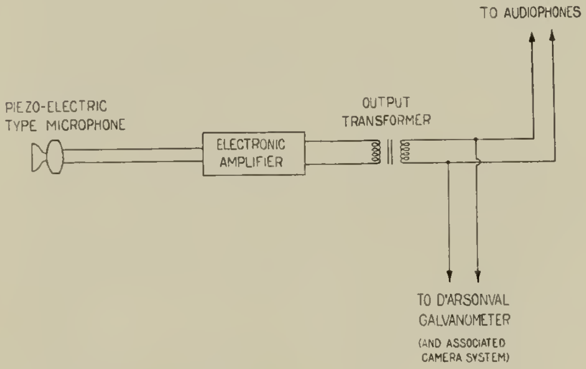
TO AUDIOPHONES
PIEZO-ELECTRIC TYPE MICROPHONE
OUTPUT TRANSFORMER
ELECTRONIC AMPLIFIER
TO D'ARSONVAL GALVANOMETER
(AND ASSOCIATED CAMERA SYSTEM)

FIG. 2. Diagram of stethographic portion of apparatus

The audiophones and recording galvanometer receive the same amplified currents so that the operator hears exactly what is being recorded. The sounds are photographed on a film which moves at the rate of 75 mm. per record.

In order to get uniformity and allow a general understanding of the record, it has been our practice to take a tracing from each of the valve areas in conjunction with the 4 standard leads of the electrocardiogram. The tracing from the mitral area is made with lead 1, the pulmonary area with lead 2, the aortic area with lead 3, and the tricuspid area with lead 4. The tracing should be made in a warm, quiet room with the patient relaxed. Quiet is extremely important, and if not obtained will interfere seriously with the clearness of the record. The interference of extraneous noises with the tracings is very difficult to overcome because of the extreme sensitiveness of the apparatus. Any attempt to reduce its sensitivity to outside noise necessarily makes the machine less accurate, and important parts of the heart tracing may be lost. One source of disturbance is eliminated if the patient is instructed to hold the breath in expiration while the tracing is made.

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* Stethocardiette manufactured by the Sanborn Company.

Artefacts.—Artefacts are, as a rule, easily detected, particularly if it is borne in mind that sounds are of no significance unless they are repeated in each cardiac cycle. The most common disturbances in the record are produced by borborygmus, which is usually represented by a few vibrations of rather high amplitude and frequency. They usually are irregularly spaced, but may be mistaken for third heart sounds if only a short strip of tracing is available. Breath sounds are usually easily detected, and muscle sounds produce an irregularity in the base line which usually does not interfere with the readability of the tracing.

Number of Sounds per Cardiac Cycle.—As a general rule, only 2 heart sounds are seen in the electrostethogram. The frequency with which a third heart sound is present is a subject of great diversity of opinion. In our series it was clearly identified in only 7 per cent of the tracings. It is heard best as a rule at the mitral area and is particularly marked in children. This may account for the low incidence of third sounds in our series, because all of our patients were adults. In a recent study by Sacks and Roberts[9] on medical students, it was present in 33 per cent of 110 records and McKee[7] found it in the apex tracing of all the children she studied.

General Morphologic Character of the Sounds.—In our studies of the first sound we were usually able to distinguish the 4 different components described by Caeiro and Orías.[19] The first component consisted usually of 1 or 2 vibrations of low amplitude and great thickness. This first portion of the sound in most cases occurred simultaneously or very slightly before (.005 sec.) the peak of the R wave of the electrocardiogram. The second component of the first sound is composed of vibrations which are of much higher frequency and amplitude than those of the first component and is longer in duration. This is followed by the third component, which is usually clearly separated from the second although there is no time interval. The third component resembled the second except that it was usually somewhat shorter and of decreasing amplitude. The fourth component when present resembled the first, being of low amplitude and frequency and of greater thickness than the second and third (fig. 3).

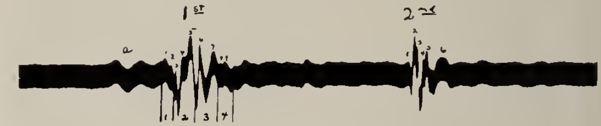

FIG. 3. Normal electrostethogram. The lower figures indicate the four components of the first sound; the upper figures the individual vibrations; a, the auricular sound.

The second sound is shorter than the first sound, but otherwise resembles it in amplitude and frequency.

The third sound when present is shorter than the first and second sounds. It usually consists of 1 or 2 vibrations of lower amplitude than the other sounds.

Duration of the Heart Sounds.—The duration of the heart sounds has been studied intensively by various workers who by different means have estimated its duration as varying from 0.06 to 0.193 second. Most of this work was done by means of the string galvanometer or by direct phonocardiography. The normal sounds as determined by us fall into a relatively small group. The maximum duration of the normal first sound in our series did not exceed 0.16 second except in very rare instances. In the different valve areas there is some slight variation in duration even in the same patient, but this variation is usually within very narrow limits. Any sound exceeding 0.16 second cannot be regarded as normal, and extension beyond this limit usually means that a murmur is present. This measurement of 0.16 second is somewhat longer than that given by other workers. Einthoven[20] gives 0.08 second, Feltenstein and Schwarzschild[17] 0.06 to 0.12 second. On the other hand, it is less than that given by Orías,[21] whose measurement was 0.1 to 0.17 second, and Caeiro and Orías,[19] who gave a range of 0.186 to 0.193 second. Segura[22] gives 0.1 to 0.14 second in infants. The shortest first sound in our series was 0.126 second.

The second heart sounds in our series varied from 0.026 to 0.09 second. This finding varies somewhat from that of Feltenstein and Schwarzschild,[17] who give 0.04 to 0.06 second, Sacks and Roberts[9] 0.04 to 0.06 second, Segura[22] 0.055 to 0.1 second in infants, and Braun-Menéndez,[13] who gives 0.094 to 0.12 second. On the whole, the measurements of the second sound are easier to make, because it is, as a rule, more easily distinguished from the base line and stands out clearly.

In certain cases a heart sound may appear of somewhat greater duration when the degree of amplification is increased. This is definitely not due to the apparatus producing prolonged vibrations after the heart sound has ceased, since the instrument is well damped. What actually occurs is that in some cases the heart sound may taper off in such manner that when the amplification is increased the very minute vibrations at the end of the sound are of somewhat longer duration, whereas at the lower amplification these small vibrations are not readily noticeable.

Frequency of the Vibrations.—It is interesting that there are two principal types of vibrations. The first and least frequent vibration is very coarse and resembles in amplitude and thickness the P wave on the electrocardiogram. The second type of vibration is sharp and spiking, with a much greater frequency per second. We have speculated somewhat upon the possibility that the coarse vibration might represent the muscular element of the sound and the finer, more frequent type of vibration the valvular element. This seems especially likely in view of the fact that the coarse vibration is very seldom noted in the second sound.

Various estimates have been given of the frequency of the heart sounds. In regard to the first sound, Segura[22] gives 30 to 55 cycles per second, Orías[21] 25 to 60 cycles per second, and Feltenstein and Schwarzschild[17] an average of 75 to 500 cycles per second. In a recent study Sacks and Roberts[9] have reported 4 to 10 large vibrations per beat (50 to 84 cycles per second) and regard any beat of more than 16 vibrations as representing a murmur. In our studies the average normal first sound consisted of 3 to 16 major vibrations. This is equivalent to 25 to 100 cycles per second.

In regard to the second sounds, Wiggers[23] gives an average frequency of 50 cycles per second, Feltenstein and Schwarzschild[17] 50 to 350 cycles per second, and Sacks and Roberts[9] 4 to 6 large vibrations per beat (100 cycles per second). In our own studies for normal hearts there were 2 to 20 vibrations per beat. This would represent an average of 77 to 166 cycles per second. In determining the frequency of the sounds we have counted only these vibrations which produce a distinct rise above the base line and have disregarded small fibrillary variations which are usually due to outside noise or muscle sounds. It seems simpler in reporting the frequency of the heart sounds to report them in vibrations per beat. To determine the frequency per beat it is only necessary to divide the cycles per second by the duration of the beat. Conversely, to transpose from cycles per second to cycles per beat it is only necessary to multiply cycles per second by the duration of the beat.

It must be remembered, of course, that all frequency determinations are more or less specific for the type of microphone employed. The frequency of the heart sounds will vary with different types of apparatus. The measurements which we have made may not apply with equal accuracy to other instruments.

Characteristics in Relation to the Areas Explored.—There was quite marked variation in the amplitude of the heart sounds depending upon the area explored. This also depends to a very large extent upon the thickness of the chest wall, but in spite of the thickness of the chest wall and with the same degree of amplification used for the entire recording, there is, as a rule, a much greater amplitude to the sounds in the apical region over those at the base of the heart. The amplitude of the second sounds as a rule is greater than that of the first sounds. The average duration of the sounds is practically the same in all valve areas. This is also true of their average frequency.

Principal Time Relations with the Events in the Reference Tracings.—For all practical purposes we have regarded the peak of the R wave as the beginning of the first heart sound and the end of the T wave as the beginning of the second heart sound. Occasionally, the sound will start before the apex of the R wave or slightly before the end of the T wave. For clinical purposes, we feel that the above timing is sufficiently accurate, but for the greatest accuracy in the timing of the heart sounds it should be done in conjunction with a venous pulse wave tracing. Such accuracy, however, is of greater value in the research laboratory than in clinical work. Such tracings may, however, be easily made by a simple attachment to the instrument.

Value of the Electrostethogram.—In our experience, the electrostethogram has had its greatest value in the timing of murmurs. It is a common experience that with rapid heart rates the exact timing of a murmur is impossible by auscultation. On the stethographic tracing, however, this is a very simple matter. The stethograph provides also a permanent record with which future records may be compared, and the progression of a murmur may be determined. The use of the stethograph to detect murmurs difficult to elicit on auscultation has not been very successful in our hands. If the murmur was indistinctly audible on auscultation, its presence on the stethographic record was questionable also. The diagnosis of valvular lesions from the stethographic record in the absence of clinical manifestations is not in our opinion justified.

Another value which the stethograph possesses is that it aids in the analysis of sounds or murmurs which to the ear merge into a single sound. We believe that the electrostethogram may come to be of value in the differentiation of functional from organic murmurs. This problem needs further study, and no criteria for their differentiation can be established at this time.

On the whole, the electrostethograph is a very valuable addition to the armamentarium of the physician. It is, however, useful only to supplement auscultation; it will never replace it.

Summary

1. Duration of the first heart sound varies normally from 0.026 to 0.16 second.

2. Duration of the second heart sound varies normally from 0.026 to 0.09 second.

3. Frequency of the normal first sound varies from 3 to 16 vibrations per beat (25 to 100 cycles per second). The normal second sound varies from 2 to 20 vibrations per beat (77 to 166 cycles per second).

4. The greatest value of the electrostethogram is in the timing of murmurs and other cardiac sounds.

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ACUTE HEMATOGENOUS OSTEOMYELITIS*

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Osteomyelitis is an acute infection involving the medulla of a bone primarily and the cortex and the periosteal tissue secondarily. This discussion is limited to acute hematogenous osteomyelitis, because osteomyelitis appearing as a complication of compound fractures or following operative procedure presents its own individual problem.

The bacteriologic etiology of this disease is well known and is limited nowadays largely to two groups of organisms, namely, staphylococci and streptococci. Many of the other bacteriologic causative agents have been greatly diminished in their incidence by the protective measures of preventive medicine. Trauma undoubtedly plays a large part in the production of the localization of the disease, but unquestionably in some instances focal infection which produces a bacteriemia or mild septicemia without trauma is equally important.

Characteristic are the sudden and acute onset with rapid, almost explosive overwhelming toxemia, unbearable localized pain, sometimes without external localizing signs and symptoms, at other times with great swelling, redness, local heat, pulsating pain and excruciating tenderness to pressure. The differential diagnosis must be made from tuberculosis of the bone, acute hemorrhagic periostitis, purulent periostitis or acute cellulitis.

The anatomy of the bone presents the explanation for the origin of the localization of this disease in children. It appears more often than not in the metaphysis in juxtaposition to the epiphyseal line. This site of onset is explained best by the fact that loops of arterial and venous vessels are to be found in the metaphyseal site of the epiphysis. Here in these expanded loops of vessels there is more opportunity for the formation of a bacterial nidus than in other parts of the shaft where circulation is more rapid. The spongy, soft, very vascular bone in this area presents an excellent medium for the rapid growth of bacteria and their consequent inroads on and the destruction of these tissues. Very rapidly the circulation of the infected area is much diminished. Early necrosis results. So quickly does the necrosis progress that it is rare indeed in the early, acute stages to find a definitely walled-off lesion. Hence, in the medulla of the bone the disease has a fertile field for rapid expansion, and only after a defensive wall has formed and the internal pressure has increased greatly in the medullary cavity do the organisms and purulent material attempt to evacuate themselves by invading the cortex through the medium of the Haversian system.

When this invasion is completed, purulent material together with organisms appear beneath the periosteal layers and produce the elevation of the periosteum which is so commonly seen in the roentgenograms. Actual appearance of the elevated periosteum is relatively late in the course of the disease, and sometimes, although it may be the only sign of osteomyelitis, it must be clear that considerable destruction has already materialized. These facts explain why osteomyelitis is a dread disease.

It is clear that there are two phases of the disease which must form the objective of the spearhead of attack: (1) the septicemia, and (2) the localized necrosis of the bone. The first phase is represented by a bacteriemia or septicemia in all degrees of severity and more often than not this condition presents the factors of success or failure. It has been pointed out in many researches during the past two decades by Wadsworth, Hoppe, Burnett, Parker, Pike and others that the various strains of staphylococci form exotoxins which produce destruction of leukocytes, hemolysis of the red cells, coagulation of the plasma, and necrosis of the tissues. It has also been shown by Burky and Dolman that the antitoxins produced by one strain of staphylococcus are capable of neutralizing the toxins of other strains. Robertson published a work in which he emphasized the value of determining the titers of the level of antitoxin in the patient's blood. In those cases of acute osteomyelitis with a favorable prognosis, the staphylococcal antitoxin appeared in tremendous amounts. In those cases with fatal determination, little or no antitoxin was found. The presence of mature and immature white cells, regardless of the leukocytic count, is an important index in determining prognosis and the value of administration of the staphylococcal antitoxin. More recently the appearance of sulfathiazole, sulfanilamide and sulfapyridine have added a new agent for attack in the ravages of streptococcal and staphylococcal septicemia.

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* Read before the Society, December 11, 1940.

Accurate evaluation of the beneficial effects of these chemotherapeutic agents is yet to be made. However, it would appear from the information that more than average value must be assigned to this medication for aid in treatment of this disease. Baker and Shands have reported a large number of cases of osteomyelitis with septicemia treated by antitoxin alone, chemotherapy alone, and antitoxin plus chemotherapy, together with early operation. In general it is quite clear that antitoxin with chemotherapy other than sulfathiazole has yielded unsatisfactory results from the standpoint of mortality, that antitoxin alone has dropped the mortality rate to 22 per cent as compared to 66 per cent in the last mentioned procedure, and that antitoxin combined with sulfathiazole has yielded the lowest mortality rate, 11 per cent.

In cases in which antitoxin alone has been given, it has been administered in large doses of 20,000 to 50,000 units with hemograms used as a check in the ratio of immature to mature white cells. As the immature cells disappear and the mature cells increase in number, the prognosis becomes proportionately better.

The use of sulfonamide compounds alone has also yielded satisfactory results in the control of septicemia. When administered, they should be given for their full therapeutic effect and the blood concentration checked daily. It is an interesting observation that in occasional cases where one would expect a blood concentration of 6 to 7 mg. to be well tolerated, one finds that 4.5 to 5 mg. may be the upper limit and that the patient shows a tendency to produce a slight drop in the concentration rather than an increase with increased dosage of the drug.

The second phase of the disease is that of localized bone necrosis. This should be handled as any other surgical infection is handled except that it must be borne in mind that increased spread of the disease and greater destruction of the bone may be expected if operative procedure is delayed too long. Incision of a presenting abscess is not sufficient for adequate drainage of the bone. To incise the periosteum, finding pus and to proceed no farther is to invite a sense of false security and delay remedial operation. In all instances, therefore, the local lesion should be efficiently drained. Efficient drainage is best carried out by incision through the periosteum and fenestration of the localized area of necrosis. This opening through the cortex should be large enough to establish adequate drainage and should cover the area of medullary infection. It is not only unwise, but detrimental, to the welfare of the patient to attempt curetting or complete saucerization of the wound at this time. The fenestrated portion should then be packed with vaseline or Bip gauze and a dry dressing applied. Thorough immobilization of the infected part is as important as a properly prepared patient and a well planned, carefully executed fenestration.

Early operation is a necessity. The difference of opinion among surgeons relative to early or late operation is one of degree and not yet properly defined. If reference is made to operation from one day to two weeks, then it should be considered early intervention. Naturally discretion must be used in selecting the proper time, and a very ill patient should be examined for septicemia and the organism determined. Immediate therapeutic measures are to be instituted using either antitoxin or sulfathiazole, or both, to improve the general toxic condition and mobilize the mature leukocytes. Those patients who respond to such therapy should have as early operation as is commensurate with safety. The group, unresponsive to chemotherapy and antitoxin, has a bad prognosis, and primary operation is of little importance. Late operation, i.e., allowing the acute localizing phase of the disease to reach its full extent and proceed to the stage of sequestration and involucrum formation, has little to recommend it. Osseous damage may be so great that extensive and destructive operation may be necessary to retrieve a normally functioning extremity. Sequestrectomy is a simpler task if early operation for drainage of the medullary cavity has been performed.

It is appropriate to mention at this point the aftercare of successfully drained osteomyelitis. The patient requires the usual upbuilding therapy. The use of vitamins, good diet, heliotherapy and transfusion when indicated should not be overlooked. The infected part should not be dressed unless indicated. Orr's method of drainage, pack, immobilization and infrequent dressings has yielded excellent results. As healthy granulation appears in the depths of the wound, dressings may be changed more frequently but in all instances the wound must not be allowed to close until the granulation approaches the skin level. Should definite sequestration appear it should be removed with judgment and the Orr procedure again applied.

Metastatic osteomyelitis, that distressing condition which presents at frequent or infrequent intervals new foci of infection, is less and less common, and the old tenet, "Once osteomyelitis, always osteomyelitis," is no longer tenable. The use of antitoxin and chemotherapy controls the bacteriemia causing this condition.

In general it may be said that osteomyelitis appearing in the third and fourth decades of life has a less grave prognosis than that occurring in children or aged individuals. In childhood immunizing bodies to the two common causative organisms of the disease have not been established, and in elderly individuals general bodily resistance as well as local tissue resistance is at a lower ebb.

By the same chain of reasoning the local recurrence of an osteomyelitis months or years after the original onset carries with it a negligible mortality, since already the local and general defenses are in order and the recurrence is usually due to the momentary flaring up of a vitiated organism which has been harbored within bony structures for a considerable period of time. The presence of sequestra diagnosed by X-ray is the usual indication for operation.

It is not necessary here to discuss the particular technic of the operative treatment of acute osteomyelitis except to point out, as has been mentioned before, that acute and complete drainage of the entire necrotic area is essential for success; for example, the medullary cavity of any of the long bones can readily be drained by fenestration. In the particular instance of the os calcis, a somewhat definite problem presents itself, and adequate drainage is not obtainable by incision and drainage of one or the other side of this bone. The best results in osteomyelitis of the os calcis have been obtained by a splitting and bifurcation of the bone posteriorly, thereby allowing adequate drainage from all portions. This procedure is mentioned merely to emphasize the necessity of proper mechanical drainage.

It is clearly evident from the facts of comparatively recent research and from experience that hematogenous osteomyelitis is a serious disease, presenting not only the danger of loss of a functioning extremity but also a mortality rate which until recent months has been distressing. It is also clear that for the first time we have in our hands the instruments by which the disease can be successfully attacked. The use of antitoxin or sulfathiazole, or both, should be a part of the active and vigorous therapeutic measures necessary for success. Early operation should also be done with the establishment of adequate drainage of the localized infection. The type of early operative procedure here described is not shocking and does not injure the patient but gives considerable aid in allowing for the discharge of accumulated infected material and in most instances prevents increased destructive inroads of bone.

Finally, a word of warning is indicated, that we must not become too enthusiastic concerning the use of chemotherapy or antitoxin and utilize these agents as a sole procedure in treating osteomyelitis. More failure than success will result. The disease is twofold, a general septicemia and a localized necrosis. The adequate treatment of both conditions must be utilized if success is to crown our efforts.

CLEIDOCRANIAL DYSOSTOSIS

REPORT OF A CASE

Linn F. Cooper, M.D.

Associate Professor of Clinical Medicine, Georgetown University School of Medicine

As pointed out recently by Miles,[1] there were many descriptions of this condition between Meckel's report in 1760 of an infant born without clavicles and the paper by Marie and Sainton in 1897, which aroused general interest in the subject. Of the more recent literature, Fitchet's article[2] in 1929 is probably outstanding. Klemmer et al.,[3] Leopold and Castrovinci,[4] Tatum,[5] and Jones[6] have all given complete descriptions of the condition. Two hundred and fifty cases had been reported by the middle of 1938. In general, no new clinical features have been presented and no conclusive light has been thrown upon the etiology of the condition. It is apparent, however, that the tendency is to consider this syndrome the result of abnormalities of the germ plasm, and less emphasis is placed on such features as mechanical intrauterine effects, faulty implantation, fetal rickets, endocrine disturbances, etc. It is quite obvious from the vast number and types of changes encountered in this disease that it cannot be considered solely an affection of the membranaceous bone.

A list of some of the reported abnormalities follows.

Clavicle:
- Unilateral or bilateral, partial or complete aplasia. (There may be complete absence of both clavicles; either end may be present merely as a stump, or there may be several fragments. In some cases a fibrous band connects these fragments. Occasionally the only abnormality may be angling, notching or arching. Clavicular remnants may show thickening.)

Cranium:
- Exaggerated transverse diameter resulting in a high cephalic index
- Brachycephaly
- Dolichocephaly
- Head appearing to be large in relation to body
- Large, wide cranial vault
- High cephalic index
- Prominence or "bossing" in occipital, parietal or frontal regions
- Median groove or furrow
- Patent sutures
- Persistence of sutura mendosa
- Open or depressed fontanelles
- Wormian bones
- Faulty ossification

- Prominent or depressed supraorbital ridge
- Large, wide or even small sella turcica
- Hypertelorism
- Depressed orbital roof
- Denting of clivus between the sphenoid and occipital portion
- Small facial cranium
- Absence of small nasal and lachrymal bones
- Small zygomata and maxillae
- Small or absent sinuses
- Arched palate
- Cleft palate
- Constriction of base of skull
- Prognathism
- Micrognathia
- Small or narrow upper jaw
- Obtuse angle of jaw

Teeth:
- Delayed dentition
- Persistent milk teeth
- Supernumerary teeth
- Retention, irregularity and malformation
- Dentigerous cysts

Spine:
- Scoliosis
- Lordosis
- Kyphosis
- Spina bifida, split spinous processes, open posterior vertebral arches, long traverse processes at various levels

Thorax:
- "Pigeon breast"
- Absence of episternal notch
- Depressed sternum
- Conical upper portion
- Cervical ribs
- Synostosis between atlas and occiput

Scapula:
- Agenesis of coracoid process
- Winging
- Diminished size
- Maldeveloped acromion

Pelvis:
- Absent symphysis pubis
- Deficient ossification of various bones
- Coxa valga
- Coxa vara
- Narrowing
- Agenesis of acetabula
- Contraction

Long Bones:
- Shortening of neck of femur
- Thick cortex
- Curving
- Epiphyseal changes in metacarpals and phalanges
- Hypoplasia, narrowing, or shortening of phalanges
- Short fifth fingers
- Double phalanges
- Delayed ossification
- Pointing of distal phalanges

Miscellaneous:
- Bipartition of hyoid bone
- Underdeveloped carpal bones
- Foreshortened os calcis
- Pes planus
- Club foot

Joints:
- Flaccidity
- Genu valgum
- Congenital dislocations
- Talipes varus
- Dislocation of head of humerus
- Dislocation of radius

General Appearance:
- Small, short stature
- Subnormal weight
- Lower half of body relatively short
- Prominent forehead
- Saddle-nose
- Stupid expression
- Sloping shoulders, which may be approximated
- Bluish sclerae
- Prominent abdomen
- Small hands and feet
- Mongoloid eyes

Muscles:
- Absence or maldevelopment of those portions of the sternomastoid, trapezius or deltoid muscles whose attachments are deficient
- Absence of subclavius muscle

Other Changes:
- Syndactylism
- Cryptorchidism
- Hearing defects
- Inguinal hernia
- Uterine prolapse
- Syringomyelia
- Exophthalmos

Thus, it is seen that in the condition known as cleidocranial dysostosis the changes may involve few or many structures. The following case is one in which extensive abnormalities were found.

REPORT OF CASE

The patient, a 69-year-old unmarried white female complained of pain in the lower back which radiated down both legs. She had had swelling of the legs of 6 months' duration, with recent exertional dyspnea and palpitation. More recently she had had several attacks of paroxysmal nocturnal dyspnea. The blood pressure was 170/70. The heart was moderately enlarged, there were râles at both lung bases, the liver was enlarged and tender, and there was edema extending up to the knees. Routine blood studies were normal except that the leukocytes numbered 11,700 with 76 per cent polymorphonuclears. The urine was normal. An electrocardiogram showed digitalis effect. The basal metabolic rate was +12. On the basis of the above findings, the diagnosis was hypertension with hypertensive heart disease and myocardial insufficiency.

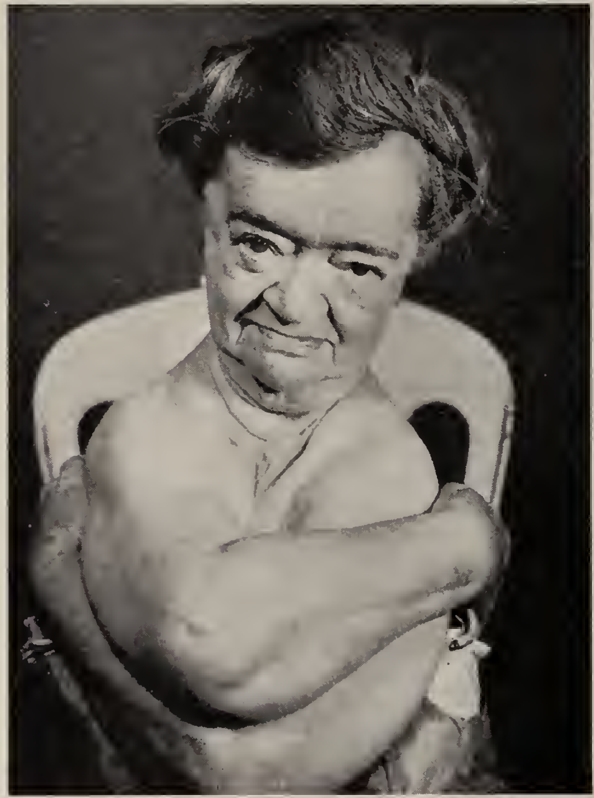

FIG. 1. Cleidocranial dysostosis. Shoulders can be pulled together in front of chest.

In addition to the above findings, the patient presented interesting skeletal changes. Her height was $55\frac{1}{8}$ inches; her weight was $113\frac{1}{4}$ lbs. She was very short, with sloping shoulders, striking lumbar lordosis and protruding abdomen (fig. 1). The head was large relative to the body, the greatest occipitofrontal diameter being 19 cm., the biparietal being 16.3 cm., and the circumference being $64\frac{1}{2}$ cm. Both fontanels were open and in the mid-sagittal plane there was a depression which extended from the occiput to the base of the nose, the bridge of which was depressed. The tubera frontalis were strikingly prominent.

The patient said that the first teeth were normal but small, that the second developed normally, and that some of the present lowers are third teeth. Examination showed 5 small, irregularly placed lower teeth in front and 4 upper teeth in front, likewise irregular.

There was abnormal mobility of the shoulders permitting their approximation in front. The hands were small and the terminal phalanx of the thumbs was short. The feet were small, and pes planus was present.

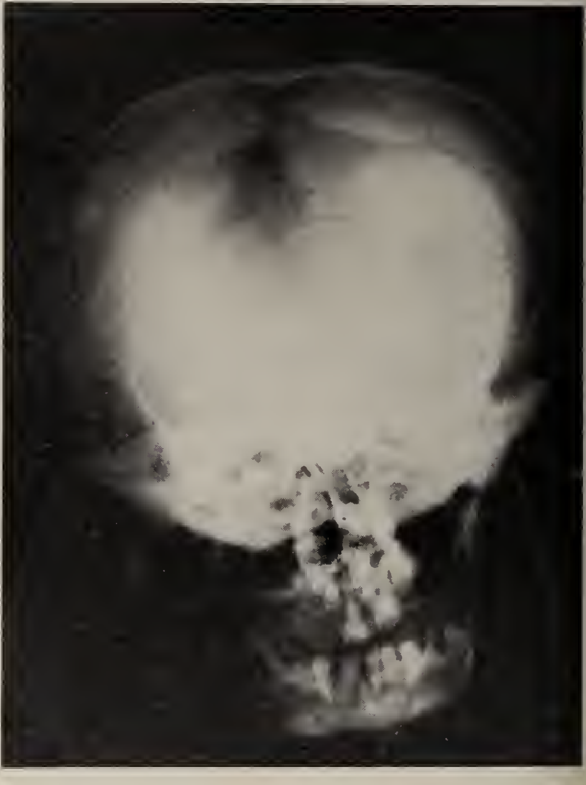

FIG. 2. Large cranium with large, open fontanel and suture.

X-ray examination revealed the following: The skull showed a pituitary fossa which was slightly above the average in length but not increased in depth, and intact clinoid processes. There was persistence of the suture lines, both the posterior and anterior fontanels being open (fig. 2). A suture line ran into the base through the occipital bone. There was absence of bone in the mid-line ranging from 2 to 4 cm. in the width and extending from the posterior fontanel to a point 2 cm. above the orbital ridge of the frontal bone. An extreme amount of density of the petrous portion of the temporal bones was noted. The chest showed a triangular-shaped thoracic cage with complete absence of clavicles (fig. 3).

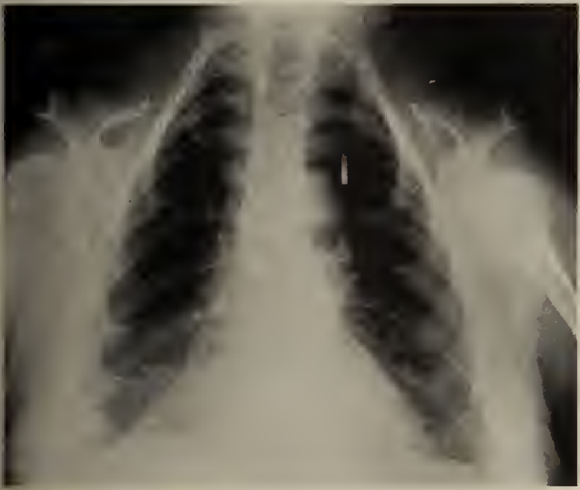

FIG. 3. Triangular-shaped thoracic cage with complete absence of clavicles.

The findings were those of cleidocranial dysostosis. The lumbar vertebrae and pelvis showed very peculiar developmental changes. The intervertebral spaces were unusually wide; the bodies of the vertebrae were very broad in proportion to their height; the transverse processes were short; and the appearance was more that of a 13-year-old child, except for the lack of epiphyses. The pelvis was contracted in the anterior-posterior diameter, mainly due to the high and straight superior rami of the pubes. The iliac crests lacked their usual flare.

The findings established the diagnosis of cleidocranial dysostosis and an inquiry into the family history showed that her one brother, her father, and her paternal grandmother were short and were said to resemble the patient. The one brother's four children were apparently normal. Two sisters died in infancy, and no data was available concerning them. The mother was "a perfect woman," as was also the only paternal aunt. No data was available concerning her one paternal uncle. One paternal aunt was normal and nothing was known concerning her one maternal uncle. Both maternal grandparents were normal. Her paternal grandfather was not remembered.

This is the second case of this anomaly observed at the Georgetown University Hospital, the other having been reported in this journal by J. R. Cavanagh.[7]

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Flap of mucous membrane to cover wound following tonsillectomy obviates pain and discomfort. The extreme pain and discomfort following surgical removal of the tonsils may be reduced to a minimum by means of a flap of mucous membrane from the tonsil which is used to cover the wound made by the operation, ROBERT H. FOWLER, M.D., New York, reports in *The Journal of the American Medical Association* for August 2, 1941.

"Today the surgeon in almost every instance can assure the patient that the tonsils will be successfully removed—the tonsil, the whole tonsil and nothing but the tonsil—without injury to the other structures of the throat, yet four decades ago such assurance was the exception rather than the rule. Up to the turn of the century tonsillotomy was practiced, and the use of that operation continued throughout the first decade; in the second decade of this century too much was removed; automatic instruments came into vogue which stripped away from the throat a thin sheet of muscle; in the third and fourth decades standards of removal of the tonsils have been improved until a 'muscle free dissection' is the common aim of all. . . .

"For fifty years we have seen the tonsillar fossa neglected after all traditional operations and the whole raw surface of the wound after enucleation left exposed to every accident of trauma from food in the throat and to its full quota of infection. There is something fundamentally wrong here.

"It takes but a minute to cut a flap at the time of the first incision of the mucous membrane; it takes less than a minute when the tonsil has been removed to anchor this flap with a catgut slipknot to the fascia at the center of the wound in such a way as to help nature in the healing. But the technic must be accurate; it takes a deft hand, and the new design must be based on anatomic lines which nature follows in the repair. . . .

"The new plan of repair designed to minimize convalescence by partially covering the exposed portion . . . with a protective mucous membrane at the time of operation obviates the most severe pain and discomfort later. The patient eats breakfast the next morning. The time for the wound to cover over is lessened by half, and the amount of scarring is almost nil. No longer does tonsillectomy involve a large open wound set to catch food and become infected and so entail great discomfort and soreness for ten days. Rather it has become a question of how successful the surgeon has been in covering the most vulnerable and sensitive part of the wound and quickening the healing forces of nature to repair the throat with a minimum of discomfort, distortion and disturbance of function. . . .

"The number of operations in which plastic flaps have been used has run into the thousands. There have not been any bad results. . . ."

PRESIDENT'S PAGE

ATTENDANCE AT SCIENTIFIC MEETINGS

At the close of the last organization year, President Daniel L. Borden appointed a Special Committee on Medical Meetings. The task assigned this committee was to determine what, if anything, could be done about attendance at scientific meetings. For a number of years this problem has confronted the Medical Society and despite sporadic efforts to find a solution, little progress has been made.

It will be recalled that last spring a canvass was made to learn the views of the Society's membership. Of the 343 who returned the questionnaires sent them, 287 were in favor of reducing the number of Society meetings. Fifty-two stated that they were opposed to any reduction. In regard to the number of meetings which should be held, 284 favored bi-weekly meetings, 50 favored weekly meetings. Three hundred stated they would like a bi-weekly schedule tried for a period of one year, 35 were opposed. In responding to the last question relating to reducing the number of meetings of societies with limited membership, approximately two thirds wished to have them reduced, while one third desired no change.

It is my sincere hope that the Committee will keep at its task. This year's Program Committee is doing everything within its power to bring to the profession in Washington the best and latest scientific material available. Certainly between 200 and 300 members out of a possible 1,100 should be on hand for scientific meetings.

Incidentally, your officers are cognizant of the effect the parking situation in the vicinity of the Medical Society building is having on attendance. No satisfactory solution has yet been found. It is possible that the new parking center being built adjoining the Society's property can be made available to members at reasonable rates.

Henry R. Schreiber

13th

Annual Scientific Assembly
of
THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

SEPT. 30, OCT. 1, 2, 1941
MAYFLOWER HOTEL

An Excellent Meeting Promised

It is with great pleasure that we announce the program of the 13th Annual Scientific Assembly of the Medical Society of the District of Columbia. It is the no doubt prejudiced opinion of the Committee on Arrangements that this year's Assembly will measure up in all respects to previous meetings and will deserve the title, "The Scientific Event of the Year in the Nation's Capital."

The program covers a variety of subjects which include almost all fields of medicine. While the meeting will be of interest to the specialist it was developed with the general practitioner in mind and deals with problems which he will meet in his everyday practice.

The Scientific and Public Health Exhibits will include many new features. A special attraction in this year's Assembly will be the Military Exhibit, showing the latest advances in Army and Navy medical procedures. Military personnel will be on hand to explain the equipment displayed.

Be sure to note on your memorandum pad the dates September 30, October 1 and 2.

John R. Cavanagh

General Chairman
Committee on Arrangements

Synopsis of Program

(All meetings at the Mayflower Hotel)

TUESDAY, SEPTEMBER 30, 1941

9:00 A.M.–11:50 A.M.: Scientific Program, Grand Ballroom

12:00 M.–1:30 P.M.: Medical Society Luncheon, Grand Ballroom
SPEAKER: COL. LEONARD G. ROWNTREE, CHIEF MEDICAL OFFICER OF THE SELECTIVE SERVICE SYSTEM

2:00 P.M.–4:40 P.M.: Scientific Program, Grand Ballroom

8:00 P.M.: Military Exhibit, Chinese Room—open to physicians, their families and friends

WEDNESDAY, OCTOBER 1, 1941

9:00 A.M.–11:50 A.M.: Scientific Program, Grand Ballroom

12:00 M.–1:30 P.M.: George Washington University Medical Society Luncheon, Grand Ballroom
SPEAKER: EARL GODWIN, NOTED WASHINGTON COMMENTATOR
SUBJECT: "CURRENT EVENTS"

2:00 P.M.–5:00 P.M.: Scientific Program, Grand Ballroom

6:00 P.M.: Women's Medical Society Dinner, Solarium of Doctors' Hospital

7:00 P.M.: Military Exhibit, Chinese Room, and Public Health Exhibit, Pan American Room and Seventeenth Street Parlor—open to the public

8:00 P.M.: Public Meeting
SPEAKER: HONORABLE FIORELLO H. LAGUARDIA, U. S. DIRECTOR OF CIVILIAN DEFENSE
SUBJECT: "HEALTH AND CIVILIAN DEFENSE"

THURSDAY, OCTOBER 2, 1941

9:00 A.M.–11:50 P.M.: Scientific Program, Grand Ballroom

12:00 M.–1:30 P.M.: Georgetown University Medical Alumni Association Luncheon, Grand Ballroom
SPEAKER: EDWARD A. TAMM, ASSISTANT DIRECTOR, FEDERAL BUREAU OF INVESTIGATION, U. S. DEPARTMENT OF JUSTICE
SUBJECT: "ESPIONAGE IN THE UNITED STATES"
Medical College of Virginia Alumni Luncheon, North Room
SPEAKER: CLAUDE C. COLEMAN, M.D., F.A.C.S., PROFESSOR OF NEUROSURGERY, MEDICAL COLLEGE OF VIRGINIA
SUBJECT: "THE PREVENTION OF INFECTION IN ACUTE HEAD INJURY"

2:00 P.M.–5:00 P.M.: Scientific Program, Grand Ballroom

7:30 P.M.: Annual Banquet, Grand Ballroom—Dancing, entertainment

Current Problems in General Medicine

All Sessions in Grand Ballroom, Mayflower Hotel

TUESDAY, SEPTEMBER 30—MORNING SESSION

EMERGENCIES IN GENERAL PRACTICE

9:00 EMERGENCIES IN OBSTETRIC AND GYNECOLOGIC PRACTICE

William Preston Haynes, M.D. (Washington)
Associate in Obstetrics and Gynecology, George Washington University School of Medicine

Emergencies which may arise in obstetrical practice will be discussed. The appropriate management in the home or before hospital admission will be described. Particular attention will be paid to placenta praevia, abortion, ectopic pregnancy and uterine rupture.

Dr. Haynes

9:25 INTRATHORACIC INJURIES

Isaac Alexander Bigger, M.D. (Richmond)
Professor of Surgery, Medical College of Virginia

Intrathoracic injuries are frequently followed by hemorrhage, shock and infection, as are injuries to other parts of the body. Hemorrhage and shock may occur as the result of wounds of the heart, the great mediastinal vessels, the pulmonary vessels, or the vessels of the chest wall. In addition to hemorrhage, shock, and infection, the serious disturbances in the physiology of respiration and circulation which frequently follow thoracic wounds will be discussed.

Dr. Bigger

10:00 RECESS

10:20 EMERGENCIES IN THE GENITOURINARY FIELD

Charles P. Howze, M.D., F.A.C.S. (Washington)
Associate in Urology, George Washington University School of Medicine

The diagnosis and management of traumatic injuries of the kidneys, bladder and urethra, including the management of the neurogenic bladder following cord injuries, are discussed. The acute obstructive lesions of the lower urinary tract due to prostatic hypertrophy, prostatic abscess, stricture of the urethra with periurethral abscess, and urinary extravasation are briefly considered. Calculous anuria, including the renal and ureteral pathology following sulfonamide medication, is reviewed. Painless hematuria and torsion of the spermatic cord are considered from the standpoint of genitourinary emergencies.

Dr. Howze

10:45 INJURIES OF THE HEAD

Walter E. Dandy, M.D., F.A.C.S. (Baltimore)
Clinical Professor of Neurological Surgery, Johns Hopkins University School of Medicine

Injuries of the head are considered in two groups: (1) acute injuries, and (2) the late sequelae. The conservative treatment is emphasized in acute injuries, but with careful observation to determine the occasional case that requires operation. Most of the late sequelae of intracranial injuries require surgical treatment. The diagnosis is all important.

Dr. Dandy

11:30 OCULAR EMERGENCIES IN GENERAL PRACTICE

The recognition and management of certain acute ocular conditions are discussed. An effort is made to differentiate the superficial infections and injuries (styes, conjunctivitis, superficial corneal abrasions, foreign bodies and mild burns) which should be treated by the general physician from the deeper, more acute and serious conditions (lacerations and perforations, corneal infections, iritis, glaucoma and severe burns) which should immediately be seen by the oculist. A final section deals with acute ocular conditions seen in children, emphasizing "pink eye," ophthalmia neonatorum, and "inclusion-body" conjunctivitis. Strabismus is briefly discussed.

Frank D. Costenbader, M.D. (Washington)

Dr. Costenbader

CAT.

11:50 RECESS

TUESDAY, SEPTEMBER 30—AFTERNOON SESSION

PREVENTIVE PROCEDURES

2:00 PREËCLAMPTIC AND ECLAMPTIC TOXEMIA IN PREGNANCY

Preëclamptic and eclamptic toxemia of pregnancy is a condition, the nature of which has long been obscure. A definition of toxemia will be given. The pathologic physiology and the morphologic changes will be described. The differential diagnosis between toxemia of pregnancy and various renal conditions which are often mistaken for it will be discussed. The ultimate prognosis for the mother and child after toxemia of pregnancy, and the medical aspect of the treatment of toxemia of pregnancy and its complications will be presented.

Soma Weiss, M.D., F.A.C.P. (Boston)
Professor of Medicine, Harvard University Medical School

Dr. Weiss

CAT.

2:45 MANAGEMENT OF PATIENTS WITH HEART PAIN

The primary considerations in the treatment of patients with pain must be both recognition that extracardiac causes for pain referred to the precordium are common, and differentiation of heart

John A. Reisinger, M.D., F.A.C.P. (Washington)
Instructor in Clinical Medicine, Georgetown University School of Medicine

pain with significant connotations from relatively benign complaints. Many patients are needlessly frightened and disabled by the failure to critically evaluate symptoms; reassurance is often more indicated than a fearsome prognosis. The most common types of true heart pain are those which we assume result from myocardial ischemia because of inadequate coronary blood flow. A detailed discussion of the management of patients with this type of pain is given.

CAT.

Dr. Reisinger

3:15 Recess

3:40 Immunologic Procedures in Pediatrics

The various methods used in the prevention of disease as encountered in pediatric practice will be discussed. At the end of the paper there will be a demonstration of the technic of Schick, Tuberculin, Dick and other tests.

Margaret M. Nicholson, M.D. (Washington)
Clinical Professor of Pediatrics, George Washington University School of Medicine

CAT.

Dr. Nicholson

4:10 Preventive Procedures in Connection with Pulmonary Tuberculosis

The physician in practice aids in tuberculosis control chiefly through more accurate diagnosis and assistance in the study of the patient's associates. Physical findings are unreliable for diagnosis. Diagnosis results from laboratory study. Cases illustrate value of new methods of sputum examination. New patch tuberculin, if negative, is strong evidence against tuberculosis. Activity of lesion based on single X-ray interpretation is unreliable and depends on repeated X-ray study, other laboratory data, and clinical observation. Patients with pleural effusions are often improperly treated. Proper management of such cases will eliminate much far advanced tuberculosis.

John W. Trenis, M.D. (Washington)
Clinical Instructor in Medicine, George Washington University School of Medicine

Dr. Trenis

WEDNESDAY, OCTOBER 1—MORNING SESSION

OFFICE PROCEDURES

9:00 Recognition of Common Skin Diseases

In this review emphasis is given to the salient diagnostic features of the most common dermatoses (syphilis omitted). Lantern slides

I. Lewis Sandler, M.D. (Washington)
Assistant Professor of Clinical Dermatology and Syphilology, Georgetown University School of Medicine

in color will be projected, each slide briefly discussed and the differential diagnosis considered.

Dr. Sandler

9:20 THE DIFFERENTIATION OF ANEMIAS

Anemia, like fever, is a symptom and a result of underlying disease. Like fever its causes are legion and sometimes like fever its cause escapes detection. To treat the symptom, anemia, is generally as unscientific as to treat the symptom, fever, although at times this is the best that can be done. This presentation is a summary of experience gained from twenty years of hospital, office and consultation practice with particular reference to the major clinical problems encountered in the management of patients suffering from anemia.

Thomas Fitz-Hugh, Jr., M.D., F.A.C.P. (Philadelphia)
Assistant Professor of Clinical Medicine, University of Pennsylvania School of Medicine

Dr Fitz-Hugh

10:00 SURGICAL OPERATIONS IN THE OFFICE

This paper takes under consideration the type of surgery which is done in the office and the many precautions that should be taken for the protection of both the physician and the patient. It also discusses the question of anesthesia, the type and technic of operation, the consideration of the patient from the psychologic standpoint, and contraindications for surgery. Slides will be used to illustrate the various types of operations.

Charles Stanley White, M.D., F.A.C.S. (Washington)
Professor of Surgery, George Washington University School of Medicine

CAT.

Dr. White

10:30 RECESS

10:50 DIAGNOSIS OF RECTAL DISEASES

Careful history-taking is the first step in diagnosis. Many rectal conditions give such a characteristic picture of onset and symptoms that they may almost be recognized by this alone. Every patient presenting rectal complaints should be submitted to a routine well-planned examination. The position of the patient, the proper light, the sequence of steps—inspection, palpation, anoscopic and proctoscopic examination—will usually insure the discovery of the nature of the trouble in a safe and accurate way. These measures may not be sufficient in certain cases and recourse must be had to further special methods.

Harvey B. Stone, M.D., F.A.C.S. (Baltimore)
Associate Professor of Surgery, Johns Hopkins University School of Medicine

CAT.

Dr. Stone

11:30 NEWER LABORATORY PROCEDURES IN THE DIAGNOSIS OF OBSCURE FEVERS

Oscar B. Hunter, M.D., F.A.C.P. (Washington)

Dr. Hunter

Probably no condition is more disconcerting than persistent fever which exhibits little or no definite clinical evidence to aid in the recognition of the cause. A discussion is given of some of the older and newer laboratory tests used in recognizing atypical infections by organisms of the salmonella group, brucella group, myco bacteria, hemorrhagic septicemia group, the rickettsia, certain of the pathogenic fungi, and some of the filtrable viruses.

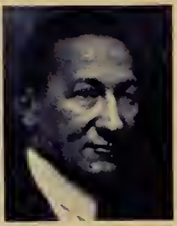
11:50 RECESS

WEDNESDAY, OCTOBER 1—AFTERNOON SESSION

CHEMOTHERAPY

2:00 MASSIVE DOSE CHEMOTHERAPY OF EARLY SYPHILIS BY THE INTRAVENOUS DRIP METHOD: FIVE-DAY-TREATMENT

Harold Thomas Hyman, M. D. (New York City)
Associate Professor of Pharmacology, Columbia University College of Physicians and Surgeons



Dr. Hyman

Massive dose chemotherapy has now been utilized for ten years in the treatment of early syphilis. The toxicologic phenomena seemed no more marked than those encountered in routine, conservative treatment. The therapeutic results approach the ideal. This is the more noteworthy since each patient initiating massive dose chemotherapy completes treatment, whereas routine methods present a case loss in excess of 80 per cent and approaching 90 per cent or more for the Nation. Massive dose chemotherapy may also be employed for other protracted infections.

2:45 SULFANILYLGUANIDINE AS A CHEMOTHERAPEUTIC AGENT FOR INTESTINAL INFECTIONS

E. K. Marshall, Jr., M.D. (Baltimore)
Professor of Pharmacology and Experimental Therapeutics, Johns Hopkins University School of Medicine

No abstract submitted.

Dr. Marshall

3:30 RECESS

3:50 CLINICAL APPRAISAL AND SAFEGUARDS OF THE USE OF THE NEWER DRUGS IN NOSE AND THROAT WORK

John E. Bordley, M.D. (Baltimore)

No abstract submitted.

4:25 PROBLEMS ARISING IN THE CHEMOTHERAPY OF PNEUMONIA AND MENINGITIS

The sulfonamides are considered powerful weapons which will have great effect upon certain diseases but which are also capable of many and sometimes serious side reactions. The problems resulting from these circumstances are considered in the following manner: (1) When should the sulfonamides be used in the different kinds of pneumonia and meningitis?, (2) Which of these drugs should be selected?, (3) How should they be used?, (4) When should they be stopped?, (5) What measures should be used in conjunction with sulfonamide therapy (including the relation of serum to chemotherapy)?

Harry F. Dowling, M.D. (Washington)
Clinical Professor of Medicine, George Washington University School of Medicine

Dr. Dowling

CAT.

THURSDAY, OCTOBER 2—MORNING SESSION

FUNCTIONAL DISTURBANCES—DIAGNOSIS AND TREATMENT

9:00 HOW CAN WE HELP THE ALCOHOLIC?

A discussion of hospital, farm and extramural treatment and the selection of type of treatment, partly on the basis of the patient and his condition and partly on the basis of his life situations at the time, is to be presented. The methods and procedures followed in each type of treatment are described in detail. The presentation further includes a discussion of the important factors necessary for the successful rehabilitation of the alcoholic. Included in the paper are the commonsense methods of study and approach, together with the 35 reëducational guides used in the rehabilitation.

Robert V. Seliger, M.D. (Baltimore)
Assistant Visiting Psychiatrist, Johns Hopkins Hospital; Instructor in Psychiatry, Johns Hopkins University School of Medicine

Dr. Seliger

CAT.

9:30 EPILEPSY AND MIGRAINE: PRACTICAL POINTS IN DIAGNOSIS AND TREATMENT

Epilepsy and migraine, genetically related, represent disturbed functions of the brain and of the sympathetic nervous system respectively. Epilepsy is as common as diabetes and as well understood. A predisposition is visualized by means of the electroencephalogram. Precipitating conditions are diverse. Cardinal elements in successful treatment are: (1) individualization in determination of etiologic factors, (2) psychologic-social therapy for maintenance of morale and mentality, (3) drug therapy, especially dilantin sodium. In migraine, endocrine glands, the sympathetic system and emotions are relatively important. Principles of diagnosis and treatment resemble those for epilepsy. Ergotamine tartrate is the drug of choice.

William G. Lennox, M.D. (Boston)
Assistant Professor of Neurology, Harvard University Medical School

Dr. Lennox

CAT.

10:00 WHY ARE THERE SO MANY NEUROTICS?

No abstract submitted.

Wendell S. Muncie, M.D., F.A.C.P. (Baltimore)
Associate Professor of Psychiatry, Johns Hopkins University School of Medicine

Dr. Muncie

10:30 RECESS

11:00 PRACTICAL TREATMENT OF THE COMMON NEUROSES

The management of the common neuroses is a frequent problem which confronts not only the general practitioner but also the various specialists. The treatment is often unsatisfactory because of a lack of a systematic formulation of the problem. The emphasis on the absence of any definite primary physical or chemical disturbance serves no direct purpose in treatment. Even a relatively simple formulation of the basic psychopathology (anxiety and its equivalents), of the personality makeup (the predisposing factors), and of the various exciting and contributing factors is the first step to successful treatment. Likewise even a few psychotherapeutic procedures, if well understood and carefully executed, make the treatment more satisfactory both to the patient and physician. With experience, the physician will increase the number of such agents and gain skill in their application.

Joseph C. Yaskin, M.D. (Philadelphia)
Clinical Professor of Neurology, Graduate School of Medicine, University of Pennsylvania

Dr. Yaskin

11:30 IS PROPER PSYCHOTHERAPY EXPENSIVE?

Physicians often hesitate to recommend psychiatric treatment to solve emotional problems because of a widespread and erroneous belief that it is too expensive. The proper psychotherapy is not expensive if patients are properly selected, seen early, and the indicated type of therapy used with intelligence. There is an erroneous belief that psychotherapy means treatment by suggestion. Treatment begins with obtaining the history, permitting patients sufficient time to talk, and encouraging them to express themselves. Emotional problems are not cured by the removal of teeth, appendectomies and other surgical procedures. Neither are they cured by pink pills, red liquids and injections.

Isadore Rodis, M.D. (Washington)
Associate Professor of Psychiatry, Georgetown University School of Medicine

Dr. Rodis

11:50 RECESS

THURSDAY, OCTOBER 2—AFTERNOON SESSION

MEDICINE IN NATIONAL DEFENSE

2:00 PUBLIC HEALTH AND NATIONAL DEFENSE

Warren F. Draper, M.D. (Washington)
Assistant Surgeon General, United States Public Health Service

The paper will deal briefly with public health and medical activities as related to the defense program at the present time. Consideration will be given to measures of health protection in areas around military and industrial concentrations, to problems of industrial hygiene, venereal disease control, and nutrition. The needs for medical and nursing personnel and the methods of their recruitment and training will be discussed. Cooperative relationships with various defense agencies will be shown.

Dr. Draper

2:25 AVIATION MEDICINE IN THE NAVY

Rear Admiral Ross T. McIntire (Washington)
Surgeon General of the Navy

The entire field of atmospheric hygiene is being investigated with considerable success. A compact and adequate research laboratory that will meet all requirements is under way at the Naval Medical Center in Washington. Field Units are being developed. Naval Aviation Medicine expects to play a definite part in solving the problems that are now facing the aviator in the war zones of Europe. It is the plan of the Navy Medical Corps to investigate every angle of this highly specialized field. In addition to the scientific side, the establishment of convalescent hospitals which will function more as convalescent homes are to be provided for aviation casualties.

Admiral McIntire

CAT.

2:50 THE CARE AND EVACUATION OF BATTLE CASUALTIES IN MODERN WAR

Major General James Carre Magee (Washington)
Surgeon General of the Army

The following points will be discussed: (1) The basic mission of the Medical Department, remaining unchanged even in modern warfare, (2) mechanized forces with high mobility which present many new problems to the Medical Department, (3) the armored division as only a part of the modern Army, with infantry and horse-drawn artillery still present, (4) hospitals, their location and present trends, and mobile hospital units, (5) evacuation means, i.e., front line ambulance, bus-type ambulance, airplane ambulance and the autogiro.

General Magee

CAT.

3:15 RECESS

3:35 THE USE OF BLOOD SUBSTITUTES BY THE ARMED FORCES

Lt. Comdr. L. R. Newhouser (Washington)
Medical Corps, United States Navy Reserve

The present world conflict has focused attention upon the need for an effective agent in the treatment of traumatic shock resulting from modern warfare. Such an agent should be readily available, effective, and simple to administer. With these facts in mind the Navy is obtaining large quantities of dried human plasma. Newer blood substitutes which may be useful are being investigated.

3:55 The Health of the Nation as Revealed by Selective Service

National health as revealed in various surveys, more especially through the work of Selective Service, is definitely below expectations. A current sample (20,000 registrants) reveals the present situation. The analyses cover defects as found in the various systems and organs of the body and the influences of geographic distribution, of urban vs. rural residences, of age, and of racial differences. The state of health is of sufficiently low ebb to give considerable concern to the Nation as a whole, and thereby constitutes a challenge to the medical and dental professions, and to the public health organizations.

Discussion led by—

Lieut. Col. A. Clagett Gray, Medical Corps, United States Army; State Medical Officer of Selective Service for the District of Columbia.

Lt. Comdr. Newhouser

CAT.

Colonel Leonard G. Rowntree (Washington)
Medical Corps, United States Army; Chief, Medical Division, Selective Service System

Col. Rowntree

CAT.

Scientific and Public Health Exhibits

The Scientific and Public Health Exhibits will be on display in the East and Pan-American Rooms and the parlor adjoining the latter at the Mayflower Hotel. A special motion picture booth has been constructed in the parlor and there will be continuous showing of films on various scientific subjects.

There will be forty exhibits as follows:

SCIENTIFIC EXHIBIT

Subject	*Sponsors*
Chronic Hyperplastic Lesions of the Urinary Tract	W. Calhoun Stirling, M.D. and J. E. Ash, M.D.
Cardiospasm	J. Russell Verbrycke, Jr., M.D.
Georgetown Medical School, Department of Pathology	Eugene R. Whitmore, M.D. and George J. Brilmyer, M.D.
Electrocardiography in Clinical Practice	Clayton B. Ethridge, M.D. and Irving W. Winik, M.D., Department of Medicine, George Washington University School of Medicine
Radiographic Pelvimetry and Tubal Insufflation	Fred O. Coe, M.D., from the Clinic of Groover, Christie and Merritt, Georgetown University School of Medicine

Subject	*Sponsors*
Abnormalities of the New Born	John L. Parks, M.D., and Lewis K. Sweet, M.D., Gallinger Municipal Hospital, District Health Department; Adjunct Clinical Professors, Departments of Obstetrics and Pediatrics, George Washington University School of Medicine and Georgetown University School of Medicine
Outlining of the Heart Chambers	Isidore Shulman, M.D.
Carcinoma of the Rectum	Garnet W. Ault, M.D., Department of Proctology, Georgetown University School of Medicine
Endometrial Patterns and Placental Pathology Associated with Recurrent Spontaneous Abortion	J. Keith Cromer, M.D., Clinical Instructor in Obstetrics, Georgetown University School of Medicine
Preparation, Preservation and the Use of Plasma	Charles S. White, M.D., J. Lloyd Collins, M.D., and Jacob J. Weinstein, M.D.
Surgery of the Sympathetic Nervous System in Peripheral Vascular Disease	J. Ross Veal, M.D., and Hugh H. Hussey, M.D., Surgical Service, Gallinger Municipal Hospital, and Medical Service, Georgetown University School of Medicine
Treatment of Burns	Michael DeVito, M.D. and Roy Klepser, M.D., Gallinger Municipal Hospital and Georgetown University School of Medicine
Activities of Various Departments and Services of Walter Reed General Hospital	Walter Reed General Hospital, Army Medical Center
Graphic Hematology	A. J. Connolly, M.D.
A Biochemical Study of Prostatic Hyperplasia and Prostatic Carcinoma	William P. Herbst, M.D.
Gross Pathology of the Brain	Walter Freeman, M.D., Jonathan M. Williams, M.D. and Daniel Jaffe, M.D., Department of Neurology, George Washington University School of Medicine
Pathology of the Eye	Department of Ophthalmology, George Washington University School of Medicine
Visualization of the Heart Chambers and Great Vessels by the Use of Diodrast	Bernard J. Walsh, M.D., L. J. Conneen, M.D., H. R. Reed, M.D., S. Katz, M.D., and L. McCollum, M.D., Georgetown University School of Medicine and Gallinger Municipal Hospital
The Treatment of Tissue Suboxygenation	Department of Anesthesia, Emergency Hospital
Photographs in Color of the Ear, Nose and Throat Cavities	Irvin Hantman, M.D., from the Otolaryngological Clinic of the Episcopal Eye, Ear and Throat Hospital
Volvulus of the Colon, Roentgenologic Diagnosis	Morris Silverman, M.D.
Atrophic and Hypertrophic Arthritis	Frank L. Williman, M.D.
Cancer of the Rectum Is Curable	Edward A. Cafritz, M.D., Department of Surgery, George Washington University School of Medicine

PUBLIC HEALTH EXHIBIT

Subjects	*Sponsors*
Drawings of Certain Parasites of Man	Army Medical Museum, Office of the Surgeon General
Professional Pharmacy	District of Columbia Pharmaceutical Association
Enforcement of the U. S. Food, Drug and Cosmetics Act	U. S. Food and Drug Administration
Tuberculosis in the District of Columbia	District of Columbia Tuberculosis Association
American Red Cross Nutrition Service	American Red Cross
Clinical Research in Pediatrics	Children's Hospital

Pictorial Review of Some Facilities and Activities	St. Elizabeth's Hospital
Problems in Medical Art	Patric Claiborne, Medical Center of Washington
Hearing Health	Washington Society for the Hard of Hearing
Progress in Disease Prevention and Life Saving	District of Columbia Health Department
The Eyes in National Defense	District of Columbia Society for the Prevention of Blindness
Diabetes	William J. Mallory, M.D., John A. Reed, M.D. and Miss Mary Philbrick, Department of Medicine, George Washington University School of Medicine
The Public Health Aspects of Trichinosis	W. H. Wright, M.D., Division of Zoölogy, National Institute of Health
Demonstrations	Washington Heart Association
Social Hygiene and Your Community	Social Hygiene Society of the District of Columbia
To Be Announced	Bureau of Maternal and Child Welfare, District Health Department
To Be Announced	Children's Bureau, U. S. Department of Labor

MOTION PICTURES

Doctors on Vacation	James M. Moser, M.D.
Resection of Polyp by Sigmoidotomy	Garnet W. Ault, M.D., Department of Proctology, Georgetown University School of Medicine
Preparation of Plasma	Charles S White, M.D., J. Lloyd Collins, M.D. and Jacob J. Weinstein, M.D.
Diagnosis and Management of Syphilis	Coöperative Clinical Group and U. S. Public Health Service
Prefrontal Lobotomy	Walter Freeman, M.D. and James W. Watts, M.D.
Choose to Live	American Society for the Control of Cancer, Inc.

Technical Exhibit

The demand for booths in the Technical Exhibit, which will be on display in the Promenade of the Mayflower Hotel, far exceeded the space available. Thirty-seven firms will participate as follows:

American Hospital Supply Corporation	(Booth 26)
American Safety Razor Corporation	(Booth 22A)
Appleton-Century Company	(Booth 19)
Beuchler's	(Booth 27)
Borden Company	(Booth 13)
Burroughs Wellcome & Company	(Booths 34 and 35)
Cameron Surgical Specialty Company	(Booth 38)
Chestnut Farms-Chevy Chase Dairy	(Booth 22)
CIBA Pharmaceutical Products, Inc.	(Booth 37)
Coca-Cola Company	(Booth 19A)
Credit Bureau	(Booth 18)
Davies, Rose & Company, Ltd.	(Booth 30)
Doak Company, Inc.	(Booth 9)
Doho Chemical Corporation	(Booth 31)
Eli Lilly and Company	(Booth 6)
Fleet, C. B., Company	(Booth 29)
Gibson Company	(Booth 8)
Heinz, H. J., Company	(Booth 36)
'Junket Folks'	(Booth 12)
Kloman Instrument Company	(Booth 1)
Lederle Laboratories, Inc.	(Booth 3)
Liebel-Flarsheim Company	(Booths 32 and 33)
Mallinckrodt Chemical Works	(Booth 24)
Maxwell & Tennyson	(Booth 2)
Mead Johnson & Company	(Booth 11)
Muller Laboratories	(Booth 17)
Peoples Drug Stores	(Booth 25)
Petrolagar Laboratories	(Booth 23)
Philip Morris & Company, Ltd.	(Booth 4)
Sanborn Company	(Booth 28)
Saunders, W. B., Company	(Booth 5)
Sharp & Dohme	(Booth 15)
S.M.A. Corporation	(Booth 16)
Smith, Kline & French Laboratories	(Booth 7)
Squibb, E. R. and Sons	(Booth 10)
White Laboratories, Inc.	(Booth 21)
Wyeth, John & Brother, Inc.	(Booth 14)

Military Exhibit

As far as known, the Military Exhibit, which will be shown during the Assembly in the Chinese Room of the Mayflower Hotel, is probably the largest exhibit of its kind which has been on display at a medical meeting. Fortunately, equipment for the care of the sick and injured in the military services is more readily available in Washington than elsewhere. Medical Departments of the U. S. Army and Navy and the Medical Division of the Selective Service System are lending their wholehearted coöperation.

Among the equipment which will be on display by the Army will be models of a mobile hospital unit and aid station, the latest field operating light, new and old litters, a pack saddle field medical kit, an aviation field medical kit, and a new field X-ray unit. Arrangements have been made with the Navy to show a model of the submarine rescue bell, submarine rescue escape appliance, also known as the Momsen lung, various gas masks, charts and diagrams of the effects of gas on the lungs, and a series of sniff bottles containing actual gas. The aviation corps of the Navy will demonstrate depth perception and color blindness tests, new projection for vision tests, oxygen breathing apparatus, and a high altitude flying suit. Selective Service will present the exhibit shown at the American Medical Association meeting in Cleveland.

These are just a few of the items which will be on display in the Military Exhibit. The Surgeon General's Office of the Army will also provide motion pictures to be shown in connection with the Exhibit. Officers and enlisted men of both the Army and Navy will be assigned to the Exhibit and will demonstrate various items.

Physicians who served overseas during World War I will find the Exhibit of particular interest because it will show them how much progress has been made since the last war.

The Exhibit will be open to physicians and guests each day of the Assembly from 9:00 a.m. to 5:00 p.m. There will be a special showing on Tuesday evening, September 30, for physicians, their families and friends. The general public will be invited to see it on Wednesday, October 1, from 7:00 to 8:00 p.m.

Registration

Promenade of the Mayflower

Arrangements have been made to facilitate registration of members of the Society by registering those who find it convenient at the Medical Society's office from 2:00 to 5:00 p.m. on Monday, September 29. Registration will begin at the Mayflower Hotel at 9:00 a.m. on Tuesday, September 30, for members of the Society, physicians in the military services, and out-of-town guests. Special provisions have been made for registering dentists, nurses, pharmacists, residents, interns, medical students and others who wish to attend some of the sessions. No one will be admitted to the scientific sessions without a badge which, together with the official program, is obtainable at the registration desk.

All who register prior to 11:00 a.m., Tuesday, September 30, will be given tickets for the Tuesday luncheon. There will be no charge to members of the Society. Out-of-town physicians and other non-members of the Society will be required to pay a registration fee of $3.00 which will include a ticket to the luncheon. Physicians in the military services, in uniform, will be registered without charge. However, their registration will not include a luncheon ticket. Tickets for the luncheon may be purchased by non-members of the Society for $1.25. Tickets for the luncheons to be given by the George Washington University Medical Society, the Georgetown University Medical Alumni Association, and the Medical College of Virginia alumni can also be obtained at the registration desk.

Special arrangements have been made for handling telephone calls. Names of physicians being called will appear on a blackboard in the Grand Ballroom of the Mayflower. In responding to calls physicians should make inquiry at the registration desk for the location of telephone booths.

Special Features

As customary, there will be a luncheon in the Grand Ballroom of the Mayflower Hotel for members of the Society and visiting physicians on the first day of the ASSEMBLY, Tuesday, September 30. Colonel Leonard G. Rowntree, Chief of the Medical Division of Selective Service, will be the speaker. Tickets will be provided those who register not later than 11:00 a.m. on September 30.

Luncheons have been arranged on the two succeeding days by the George Washington University Medical Society, the Georgetown University Medical Alumni Association, and alumni of the Medical College of Virginia. Earl Godwin, noted Washington commentator, will speak at the George Washington University Medical Society luncheon to be held in the Grand Ballroom of the Mayflower on Wednesday, October 1. Tickets ($1.25) for this luncheon can be obtained from Dr. Oscar B. Hunter, 1835 Eye Street, N.W. The luncheon of the Georgetown University Medical Alumni Association will be held in the Grand Ballroom of the Mayflower on Thursday, October 2. The speaker will be Mr. Edward A. Tamm, Assistant Director of the Federal Bureau of Investigation, U. S. Department of Justice. Tickets ($1.50) for this event can be obtained from Dr. Philip A. Caulfield, 2607 Connecticut Avenue, N.W. On the same day, in the North Room of the Mayflower, the Medical College of Virginia alumni will hold a luncheon. The speaker will be Dr. Claude A. Coleman, Professor of Neurosurgery, Medical College of Virginia. Tickets ($1.25) can be obtained for this luncheon from Dr. William A. Morgan, 1835 Eye Street, N.W.

The Women's Medical Society will give a buffet dinner in the Solarium of Doctors' Hospital on Wednesday, October 1, at 6:00 p.m. Visiting women physicians will be invited guests. Those desiring reservations should get in touch with Dr. Elizabeth Parker, 1835 Eye Street, N.W.

The Military Exhibit, a new feature of the ASSEMBLY, will be open from 9:00 until 5:00 o'clock each day. There will be a special showing on Tuesday evening, September 30, beginning at 8:00 o'clock for physicians, their families and friends. The Military and Public Health Exhibits will be open to the public from 7:00 until 8:00 o'clock on Wednesday evening, October 1. The Public Meeting will be held in the Grand Ballroom of the Mayflower on the evening of October 1, and will be addressed by the Honorable Fiorello H. LaGuardia, U. S. Director of Civilian Defense.

The ASSEMBLY will close with the Annual Banquet to be held in the Grand Ballroom of the Mayflower Hotel on Thursday evening, October 2, at 7:30 o'clock. There will be dancing and excellent entertainment.

EDITORIALS

"... THE PROMOTION OF THE SCIENCE AND ART OF MEDICINE ..."

The primary responsibility of any medical society is to keep its members informed in regard to advances in medicine. Recognizing this, all societies in one way or another define it as their principal objective. Chapter I, Article II of the Constitution and By-laws of the Medical Society of the District of Columbia reads as follows:

> "The object of this Society shall be the promotion of the science and art of medicine and sanitation and the common interests of its members and the public."

Our Medical Society has fulfilled this obligation most conscientiously. From October to May, weekly scientific sessions have been held in the Society's building. Every effort has been made to obtain the best material possible. Not only have local physicians been given an important place on the program but eminent scientists from all parts of the country have frequently appeared before the Society.

The high point each year has been the Annual Scientific Assembly, which in recent years has developed into one of the finest medical meetings in the country. This year's Assembly is described in a special section of this issue of the Annals. A perusal of the scientific program will disclose that it includes nearly all phases of general medicine. Of timely interest will be the session devoted to military medicine. Exhibits will be by far the most elaborate which have been displayed. Distinctly unique will be the Military Exhibit, which has been made possible by the Medical Departments of the Army and Navy.

In this connection, attention should be called to the Public Meeting which is to be held at the Mayflower Hotel on Wednesday evening, October 1. Just as the Medical Annals went to press, it was learned that the Honorable Fiorello H. LaGuardia, U. S. Director of Civilian Defense, had been obtained as speaker. His subject, "Health and Civilian Defense," is particularly timely. He will undoubtedly discuss the nation-wide Emergency Medical Service which is in the process of organization.

Members of the Society who have not in the last two years attended the Assembly owe it to themselves and their patients to be on hand for as many sessions as possible. It can be said without qualification that if they do participate, they will share the enthusiasm of their colleagues who have attended.

The Medical Society of the District of Columbia can well be proud of its Annual Scientific Assembly. Although it has grown far beyond the dreams of those who established it, it still has greater possibilities. Each year it attracts larger numbers of physicians from the District and nearby states. There is no reason, therefore, why in time it should not become an institution to thousands of physicians in states contiguous to the District of Columbia.

POSTWAR MEDICINE

As those who keep abreast of the news know, the Government is already attempting to devise means of cushioning the inevitable shock to our social and economic system following the war. Public officials in positions of responsibility are keenly aware that even their best plans may fail to meet the situation. However, they do not intend to be in the position of not having taken into account the adjustments which will have to be made when this nation returns to peacetime tasks.

Leaders in the medical profession are also under obligation to give serious consideration to probable postwar conditions and how the profession can fortify itself to some extent against the impact. There are many straws in the wind which will give the intelligent physician something on which to base his conclusions, for example, the rising power of labor and its growing demands. Another factor is the policies of the present administration. As is well known to the medical profession, there are a number of individuals in important positions who ardently advocate the vast expansion of medical facilities under Government control. They have not hesitated to use the National Defense Program to advance their proposals, some of which, if adopted, will to a large extent shape medical practice in the postwar era. There will be, of course, other contributory factors such as the disclosure of unfitness of a large proportion of men examined for military service. The extent to which the rehabilitation program now in the process of development succeeds will determine its significance to medicine. Should it prove workable, it may well be adopted as a pattern for the future. Then, too, there is the far-reaching health program which has been proposed for defense areas.

Regardless of the criticism which may justly be leveled at some of these projects, the medical profession must weigh the benefits of each to the people, supporting such steps as it believes to be in the public interest, and guarding against inefficient and wasteful proposals. Every thinking physician knows that changes in medical practice are inevitable. What he has often failed to see is that it is within his power to help shape them. The time to do that is now.

PREVENTIVE PSYCHIATRY

Describing the prevalence of mental disease in this country as "a grave and immediate medical emergency affecting every one of America's millions," Mr. Watson B. Miller, Assistant Federal Security Administrator, urged the adoption of a comprehensive program for civilian mental health. In speaking to a group of psychiatrists he said:

> "Psychiatric knowledge already far outstrips its application. Much more can be learned, and will be learned as greater attention is paid to research in nervous and mental diseases. Psychiatry in the United States is far more advanced than in any other country. We have reason to be proud of the position of world importance occupied by our research and our clinical achievements.
>
> "Yet there are in the United States today only 3,000 trained psychiatrists. Psychiatric nurses number perhaps 6,000. And for the psychiatric social work and occupational therapy, two of America's unique contributions to clinical psychiatry, we have some 1,500 trained workers.
>
> "What is more disturbing, medical education has

> not equipped general practitioners to recognize mental disease in its early stages, nor to apply psychiatry in the treatment of a very large number of their patients whose bodily ailments are clearly psychic in origin. Yet, it is impossible to see how we can make further progress in mental hygiene without the informed interest of the general practitioner. It is he who first sees the great majority of incipient cases; it is he to whom the neurotics turn with their subjective symptoms, very real to them, for which he can find no demonstrable physical cause.
>
> "But graduate and undergraduate psychiatric training in our medical schools should be more than encouraged; it should be pushed with every resource at our command. It would be useless even to toy with the idea of attacking our civilian mental health problem if the immediate future offers no hope of a continuing, ever-increasing supply of physicians aware of the implications and opportunities in psychiatry.
>
> "Not only the major share of case-finding but even a part of treatment can be done by the well-trained general practitioner. The psychiatrist should be regarded as the consultant and the specialist in the treatment of mental disease."

Physicians are, of course, familiar with the inadequacies of mental institutions. There is nothing new in Mr. Miller's statements calling attention to the fact that many of them are understaffed both as to physicians and nurses. Mental hospitals have with few exceptions been overcrowded, it being estimated that on the average for the Nation, the occupancy is 11 per cent in excess of their capacity. Mr. Miller pointed out that in the New England and the Pacific states, overcrowding is more serious, the rate being from 15 to 24 per cent. It is estimated that an additional 130,000 beds for mental patients are needed.

Emphasizing the importance of early diagnosis and prompt treatment, Mr. Miller proposes the following program:

> "I think it is obvious that we must first safeguard and improve our existing facilities for care of the mentally ill. . . .
>
> "State legal provisions for admission to public mental hospitals should receive early attention. State laws vary from the intelligent method of commitment upon the recommendations of qualified physicians to inhumane trial by jury. . . .
>
> "Politics should be taken out of the administration of public mental institutions. . . .
>
> "Our public mental institutions should provide better opportunities for able young men and women on their medical and nursing staffs. . . .
>
> "More thought must be given to recruitment for psychiatric service, especially with the threat of loss of staff to the armed forces staring us in the face. . . .
>
> "I am wondering if we do not need. . .to plan for the study and reconditioning of our performance in rendering care for the mentally ill. . . .
>
> "New construction will be needed in some areas in order to bring hospital facilities up to the minimum standard. . . .
>
> "Plans must be made and put into effect for the protection of men rejected (for military service) because of mental disorder or emotional instability. . . . Obviously, the civilian authorites must work out some way of handling these incidents with discretion and tact so that no individual suffers social or psychic injury.
>
> "This situation certainly points to the urgent necessity for public education—another long-overdue activity for civilian mental health. Psychiatry at best has done a meager and ineffective job in making itself known to the general public. . . .
>
> "It is my feeling that the psychiatric profession and all other organizations that can contribute anything to education of the public in this field must do so now."

In general the medical profession will agree with this program. No one appreciates more the need for more adequate facilities for the care of the mentally ill than do physicians. However, it isn't altogether an institutional problem. The greatest challenge to psychiatry is that of aiding maladjusted persons who are not potential institutional cases.

Although psychiatry has made great strides in recent years, it is still in the dark as to many quirks in human nature. In other words, psychiatry has its limitations as in a more or less degree do all other branches of medicine. This fact should stimulate rather than deter the medical profession in its efforts to reduce the incidence of mental disease. For only by applying what is now known will there be a better understanding of the human personality. Of greatest importance, thousands of our citizens will be the beneficiaries of the effort.

PERTINENT PARAGRAPHS

August Meetings

As August is vacation month in the Nation's Capital, many physicians were away from the city. As a result, most committees were inactive. However, September will be a busy month as a number of committees will be busily engaged with preparations for the ANNUAL SCIENTIFIC ASSEMBLY.

The following meetings were held during August:

August 1	Committee on Radio Education
August 5	Subcommittee on Tuberculosis
August 21	Subcommittee on Military Exhibit, Annual Scientific Assembly
August 22	Committee on Military Affairs
August 23	Committee on Radio Education
August 25	Subcommittee on Scientific Exhibits, A. S. A. Executive Board

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Citizenship Requirement for Licensure

The District Commissioners have recommended passage of a law making citizenship a prerequisite to the practice of medicine in the District of Columbia. The legislation has the endorsement of Dr. George C. Ruhland, Secretary of the Commission on Licensure, who contends that citizenship of physicians is highly desirable because of certain quasi-legal duties they must perform, such as signing birth and death certificates and examining selectees. Speaking for the Medical Society, Dr. F. X. McGovern, Chairman of the Executive Board, also endorsed the bill. Previously the Society's Executive Board and the Committee on Public Policy had given their approval to the proposal.

Forty-four states have laws or regulations requiring that applicants for license to practice medicine be American citizens or that they have first naturalization papers. The District of Columbia, California, Indiana, Vermont and Arizona do not have such requirements.

One of the major obstacles to licensing physicians from abroad who are not citizens has been the difficulty of ascertaining the standing of the schools from which the applicant was graduated. Particularly is this true of physicians from such countries as Germany since the Council on Medical Education and Hospitals of the American Medical Association has had difficulty in obtaining information on which to base its rating.

Those who favor placing restrictions on the licensing of alien physicians point out that European nations do not extend reciprocal privileges to our physicians. Until equal rights are agreed upon they would bar practitioners from abroad.

Recent press reports indicate that some physicians are opposed to the proposed legislation, believing that if enacted into law, it would unfairly discriminate against refugee medical practitioners.

It is significant that many medical societies throughout the country have in recent years incorporated the provision in their constitution and by-laws that applicants for membership must be citizens of the United States.

●

Bad Temper Defended

Although he admits that among undesirable characteristics bad temper often assumes high rank, Dr. J. Shelton Horsley, of Richmond, comes to its defense in an article appearing in the July issue of the *Virginia Medical Monthly*. He argues that the difference between a bad temper and a vicious or violent temper is that a bad temper probably might be controlled, and that "practically no vices or virtues are consistently always bad or always good. Human character, like a diet, should be made up of well balanced elements." To prove his point, Dr. Horsley continues:

> "The justification of a bad temper may not be overwhelmingly proved, but there are many suggestive incidents which show that it is not always reprehensible. The bad temperish characteristics of Dr. Samuel Johnson,

the lexicographer, and of Carlyle, are notorious, and as a result many a quip from them has been recorded. Johnson was once criticized by a lady for his erroneous definition of the pastern joint of a horse. She asked him why he committed such an error, and he peevishly replied, 'Just ignorance, Madam, pure ignorance.' Definitions are tricky things, and doubtless require a careful selection of words and an even temperament. Johnson must have been irritated, a not unusual condition for him, when he defined network as 'something reticulated and decussated with interstices between its intersections.' Surely no one in a placid mood could have inflicted such a thing upon us!

"More recent incidents of the intellectual stimulus of a bad temper are furnished in 'Life With Father' by Clarence Day, and in 'The Vanishing Virginian' by Rebecca Yancey Williams. One of the most amusing situations in 'Life With Father' was when something would go wrong and Father would retire to his room and peremptorily tell God what should be done.

"In 'The Vanishing Virginian,' Captain Yancey would explode on the slightest provocation. On one occasion when his laundry was not delivered this characteristic was brought out. The laundry had been done at his farm in Bedford and was sent to his home in Lynchburg by express collect, but because neither Captain Yancey nor his wife was at home at the moment and the new employee was unacquainted with them the laundry was not left as it could not be paid for. When Captain Yancey returned and found his laundry had not been delivered he telephoned the express company and protested with many damns for the company and all its works and particularly for the 'haggis-headed young idiot' who had such damn little sense as not to leave the package. In a loud voice he committed the whole express company and its entire personnel to everlasting and eternal damnation. His wife was very much perturbed. She called up the express company and apologized to the agent, who simply laughed and said he knew Captain Bob and it was all right. She then tried to explain to her new negro cook who could not help hearing the Captain, but the cook said, 'Lawd, Miss Rose, I don't mind. I likes to work for quality folks; I knowed Mr. Yancey was a 'ristocrat de minute I heard him cuss so pretty.'

"There are numerous case histories which illustrate the incidence of a bad temper and its defense reaction. Those of Carlyle, Samuel Johnson, Mr. Day and Captain Bob Yancey have been mentioned. In the surgical profession they may also be found. Dr. William H. Carmalt was a professor of surgery at Yale for many years. When he was about seventy he retired, but he lived to a more advanced age. His early training was in ophthalmology in Vienna, where he became much interested in the history of medicine, particularly as it affected surgery. He was fond of tracing back to the laws and customs of the Arabs and Moors. Another characteristic was that he was impatient of questions regarding the source of his information. This would have cramped his style and probably have involved considerable labor and tedious references concerning things that he believed he knew full well. So a favorite expression of his when he was asked for his authority for a statement was that 'It is none of your damn business.' In spite of his occasional peevishness, however, he was very popular with the students and the profession.

"A testimonial dinner was given him some years after he had retired. The toastmaster was Dr. David Lyman, of Connecticut, an alumnus of the University of Virginia. He addressed Dr. Carmalt (who was known as Uncle William) in the following verse:

'You are old, Uncle William, and some people say
That temper increases with age,
But we find you as mild as a soft summer day.
Pray, how do you conquer your rage?
The secret of that, Uncle William replied,
Was taught by the Arabs and Moors;
But where I obtained it, or how it's applied,
Isn't any damn business of yours!'

"So, if we had to create an ideal man, we would follow this formula: As the primary ingredients take large quantities of physical and moral courage, honesty, and truthfulness; add a considerable amount of intelligence, loyalty, physical comeliness and a rather liberal measure of gentleness and kindness, with some tactfulness. To prevent this combination, however, from being somewhat flat and insipid, it should be seasoned with a dash of bad temper."

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The Doctor's Diction

Dr. R. S. Austin, writing in the August issue of the *Ohio State Medical Journal*, chides his colleagues for their carelessness in the use of words. He says:

"Misuse of words is by no means peculiar to the medical profession. For some strange reason an efficiency loving people, such as Americans apparently are, largely fail to appreciate that careful use of language is one of the best ways of promoting their material and intellectual interests. It frequently is not entirely ignorance that causes an improper use of words but often just carelessness, together at times with a dislike for appearing superior—the 'low-brow pose.'

> "The physician perhaps might be thought to be somewhat protected against lapses from correct use of words because his training has emphasized the necessity for accuracy. For example, therapy demands the proper choice of a drug in correct dosage. Yet when it comes to conversation or clinical records, proper choice of words is too often neglected. Like his non-medical fellow citizens the doctor of medicine slips into the slipshod practices of sloppy diction which characterize the current social scene. That apathy toward the situation is largely responsible for it is evidenced by the far more careful choice of words in published articles on medical subjects, although in part credit here may be given to editors and proofreaders."

Some will find Dr. Austin's logic on the weak side when he says that the physician "might be thought to be somewhat protected against lapses from correct use of words because his training has emphasized the necessity of accuracy." Command of language and proper usage of words are acquired by constant practice and are not by-products of medical training. If physicians are not guilty of "slipshod practices of sloppy diction" when writing articles for publication, it would perhaps be fair in most instances to give more than "part credit. . .to editors and proofreaders."

It would be safe to say that generally speaking, considering their education, physicians do not give a good account of themselves in writing for publication or otherwise. There are, of course, able writers in the medical profession, but their number is not large.

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"Iron Lungs" Listed

A booklet has recently been issued by the National Foundation for Infantile Paralysis listing adult cabinet type respirators approved by the Council on Physical Therapy of the American Medical Association. The list was compiled from records available July 1, 1941. The following statement appears in the foreword:

> "The National Foundation hopes that the list will prove helpful in any emergency and in epidemics of infantile paralysis. It also may be used as a guide for those contemplating the purchase of an 'Iron Lung' as it readily shows the accessibility of respirators for any given community. Should the purchase of a respirator be considered, we suggest such a step be discussed with leading persons in the medical profession and a careful study be made with respect to local hospital facilities, number of respirators within transportable distance, availability of competent medical supervision, total population to be served, previous incidence of cases needing respirator treatment and whether the initial cost and upkeep warrant such a purchase. Some of our Chapters throughout the country have deemed it advisable to establish an emergency respirator fund to be used only in the event of actual need since past experience indicates that these machines are usually obtainable in twenty-four hours or less.
>
> "The Medical Advisors of The National Foundation believe that a well balanced geographical distribution of respirators or 'Iron Lungs' would best serve the interests of all of our people. The Foundation is prepared to render any assistance that it can in regard to respirator problems."

Institutions in the District of Columbia listed as having respirators are Children's Hospital, Gallinger Municipal Hospital (owned by District of Columbia Chapter of the National Foundation), Providence Hospital (owned by American Legion), U. S. Army Medical Center, Walter Reed General Hospital (3).

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Praise for the General Practitioner

In an article appearing in the August issue of the *Rotarian*, Dr. Chevalier Jackson, now 75 years of age, pays tribute to the general practitioner. Speaking of conditions which existed at the time he graduated from medical school (1886) he says:

> "At that time the only recognized specialty was diseases of the eye. The medical profession thought that any doctor should be able to treat anything, and those physicians who were bold enough to confine their practice to one type of disease risked the danger of being expelled from medical societies.
>
> "Today we have an age of specialists, yet the family doctor remains the basis upon which all medicine rests. He knows his patients, their peculiarities, and their general state of health. It is he who treats them for the ordinary run of sickness and advises them to see a

specialist when their condition calls for one. And it is he who gives their case history to the specialist and informs him of the patients' particular characteristics. I do not think anyone can stress strongly enough the part that the general practitioner plays in medicine."

This expression of confidence coming from as eminent a specialist as Dr. Jackson is high praise indeed. Although he specialized from the beginning, it is apparent that he has not changed his mind in regard to the importance of the general practitioner.

Dr. Jackson is an Honorary Member of the Medical Society of the District of Columbia, having been elected on January 6, 1932.

RED CROSS ROLL CALL

Appointment of Dr. Philip A. Caulfield, 2607 Connecticut Avenue, N. W., as Chairman of the Doctors' Division of the Professional Group for the District Red Cross Roll Call, which gets under way September 22, has been announced by Edgar Morris, General Chairman of the Silver Anniversary Roll Call.

Dr. Caulfield has issued the following statement for the attention of Washington physicians:

"The attention of the members of the Medical Society is called to the Roll Call for membership in the Red Cross, District of Columbia Chapter, September 22 through October 20.

"Each year our profession is called upon to contribute to this worthy cause. This year, more than any year since World War I, it is necessary for all physicians to contribute not only their services but also financially.

"The Woman's Auxiliary of the Medical Society has kindly consented to solicit memberships from all the doctors during the Roll Call period. In this way our profession may enroll as a unit. Please help to make this membership enrollment 100 per cent strong. Also please assist the ladies in any way you can when they call at your office."

RADIO BROADCASTS

The Committee on Radio Education has presented the following talks over Station WMAL during the spring and summer months:

April 1	"Something for Nothing"
April 8	"Birthmarks"
April 15	"Anemia"
April 22	"Cancer"
April 29	"Child Health Day"
May 6	"National Hospital Day"
May 13	"The Doctor's Scotland Yard"
May 20	"Exercises"
May 27	"Ticks"
June 3	"Water Sports"
June 10	"Food Poisoning Time"
June 17	"Glands"
June 24	"Arthritis"
July 1	"Health of the Army"
July 8	"Rest and Relaxation"
July 15	"White Collar Hazards"
July 22	"Diphtheria"
July 29	"Do You Face Reality?"
August 5	"Do You Live a Normal Life?"
August 12	"When Should I Call the Doctor?"
August 19	"The Weather and Your Health"
August 26	"What Is Physical Therapy?"

Members of the Committee were assisted in presenting these broadcasts by Mr. Robert Duncan, Director of Instruction, First Aid and Life Saving of the District Chapter of the American Red Cross; Col. Edgar Erskine Hume of the Medical Field Service School, Carlisle Barracks, Pennsylvania; and Mr. Theodore Wiprud, Secretary of the Medical Society of the District of Columbia.

Following reorganization of the Committee on Radio Education on July 1, Dr. Roy Lyman Sexton was succeeded as Chairman by Dr. Henry B. Gwynn. Dr. Gwynn has spoken on the weekly program since July 15.

The Committee is considering a unique type of program to be broadcast over one of the networks. As soon as details have been worked out they will be announced in the MEDICAL ANNALS.

MEDICAL PREPAREDNESS SECTION

> *Certainly, the large percentage of rejections (for military service) should be reduced by the employment of every agency at our command. But the drive to achieve this must have public acceptance and coöperation. The medical profession and the many agencies concerned with the betterment of the private and public health have until recently geared their activity to the necessities of peace. Now that activity must be indefinitely increased. Within reason, the national health can be much improved with the active coöperation of the public but only, be it understood clearly, if the public really desires it and will do something about it. It is still only too true that you can lead a horse to water but you can't make him drink.*—THE NEW YORK STATE JOURNAL OF MEDICINE.

In a communication to the Secretary of the Medical Society of the District of Columbia, Dr. George Baehr, Chief Medical Officer of the Office of Civilian Defense, advises that he will keep the Society informed of all medical and public health activities of his office. Dr. Baehr is Chairman of a Medical Advisory Board which has been appointed by the Hon. Fiorello H. LaGuardia, Director of the Office of Civilian Defense, to assist the Medical Division of the O.C.D. Other members of the Committee are: Dr. Robin C. Buerki, Madison, Wisconsin; Dr. Elliott Cutler, Boston, Massachusetts; Dr. Oliver Kiel, Wichita Falls, Texas; Dr. Albert McCown, Washington, D. C.; and Dr. Fred Rankin, Lexington, Kentucky.

Dr. Baehr states that in the near future the Society will receive a bulletin on the organization of emergency medical services in each area of the United States. He stresses the importance of having the information in the hands of every physician in the District so that each may understand the role which he may play in civilian defense.

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According to a report received from District of Columbia Headquarters of Selective Service, of the 264 colored selectees sent to Baltimore for induction during the month of July 1941, 79 or 29.92 per cent were rejected for physical defects. Of the 438 white selectees sent to the Richmond Induction Station during the same period, 32 or 7.30 per cent were rejected.

An analysis of the reasons for rejection discloses that of the colored selectees nearly 45 per cent were rejected for venereal diseases. One third of the white selectees were rejected because of pyschoneuroses.

At the request of Colonel Leonard G. Rowntree, Chief of the Medical Division of the Selective Service System, the Medical Society's Committee on Military Affairs recommended to the Executive Board that a survey be made in the District of Columbia to determine the costs of rehabilitating selectees having remediable physical defects who have been rejected for military service. The Board gave its approval and authorized the survey to be made. Details remain to be worked out. They will be announced in the next issue of the MEDICAL ANNALS.

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From time to time there have appeared in these columns the names of members of the Society who have been ordered to active military duty. The following list, so far as is known in the Society's office, includes all members of the Medical Society of the District of Columbia in the military services:

Arnold Albert, Walter Atkinson, E. Herbert Bauersfeld, Joseph F. Belair, Robert A. Bier, Robert M. Bolton, Daniel L. Borden, John L. Cardwell, Frank T. Cawley, Morris Chase, Roger S. Cohen, John F. Dominick, Irvin Feldman, Elmer W. Fugitt, O. Hugh Fulcher, Frank B. C. Geibel, James H. Gillen, Edward J. Grass, A. Claggett Gray, Luther W. Gray, Stewart M. Grayson, Milton M. Greenberg, Joseph J. Greenlaw, Malcolm D. Harrison, M. Lynwood Heiges, Clayton H. Hixson, Gerald A. Hopkins, Henry A. Hornthal, Richard L. Jackson, Elmer Klein, Don Knowlton, Edward A. Krause, Benjamin P. Lafsky, Kenneth F. Laughlin, Leslie K. MacClatchie, Marvin M. McLean, Russell McNitt, Alfred E. Meisenbach, Ernest Michaelson, Reginald H. Mitchell, Joseph M. Moore, John E. Morris, Henry A. Monat, Edward C. Morse, L. Conner Moss, Arthur J. Mourot, Benjamin J. Mundell, Raymond W. Murray, Harry B. Orleans, John H. Peacock, Jr., Ivy A. Pelzman, Thomas J. Ready, F. Bernard Schultz, Ernest C. Shull, John B. Smith, Luther H. Snyder, Sylvan A. Steiner, J. Duerson Stout, John A. Swartout, S. Ross Taggart, J. Lawn Thompson, Jr., George Tolstoi, Maurice van Kinsbergen, Joseph J. Wallace, Albert M. Wheeler, Paul Wilner, Samuel Zola.

OPPORTUNITIES FOR YOUNG PHYSICIANS IN CIVIL SERVICE

Verne K. Harvey, M.D., *Medical Director*
and
E. Parker Luongo, M.D., *Medical Officer*
United States Civil Service Commission

Until recently, the opportunities for a career as a Federal medical officer, other than those afforded in the commissioned services of the Army, Navy and Public Health Service, have not received due consideration by the majority of the medical profession in the United States.

Provisions have been made for the employment of physicians in both the commissioned and civilian services by certain laws enacted by Congress and Executive Orders issued by the President. During non-emergency periods approximately the same number of physicians are employed in the classified civil service through open competitive examinations under the provisions of the Civil Service Act and rules, as are commissioned in the Army, Navy and Public Health Service.

Because of the present national emergency, large numbers of recent graduates of medical schools have been employed to provide medical care for the growing armed forces of the nation. This trend has brought about an acute shortage of young physicians available for employment in the classified civil service. The medical functions of the Veterans Administration and other Government agencies, however, must go on both in peacetime and during a national emergency.

Inasmuch as it is inevitable that the ranks of medical officers already in the various Government agencies will be depleted by retirement of the older doctors and by entrance of the younger doctors into active military duty, an effort is being made to build up the staffs of these agencies with young physicians and recent graduates of medical schools who wish to make the Federal service a career. It is therefore necessary to bring to the attention of young physicians the opportunities which are afforded by such a career.

In the past, opportunities afforded by a medical career in the civil service have been obscure in the minds of the majority of the physicians in this country inasmuch as they have not been informed generally of the fields or branches of medical practice which are represented in the civil service. It is not generally known that a physician in the civil service may participate in any phase of medical activity, ranging from a rural practice to the most highly specialized fields.

It may be well to emphasize that not all civil service physicians are employed in large Government hospitals. On the contrary, a considerable number are engaged in the general practice of medicine, for example, those employed in the Indian Service of the Department of the Interior. The Indian Service, besides maintaining general hospitals and sanatoria ranging from 50 to 250 beds, has a very active outpatient department connected with its hospitals, and many of its physicians make home calls, make field trips, conduct school examinations, and administer general public health measures among the Indians.

Young physicians may be employed under civil service as far south as Panama and as far north as Alaska. In the Canal Zone, the young physician who is interested in tropical diseases may receive excellent opportunities to study that subject. Civilian physicians in the Canal Zone are appointed mainly for duty in dispensaries and for quarantine work. The dispensary work consists of general practice involving the attending of Government employees and their families, crews and passengers of vessels, etc. The work of quarantine physicians consists of quarantine and immigration inspection of crews and passengers on incoming vessels.

Positions in Alaska under the Indian Service will appeal to young physicians who have an adventurous spirit, as will positions in the Coast and Geodetic Survey, which afford an opportunity for young physicians to spend some time at sea on Coast and Geodetic Survey vessels. The task of physicians employed in Alaska under the Indian Service is a formidable one because of the climate and the remoteness of some of the villages. However, young physicians of robust health who go to that area have an opportunity to render a great service to humanity.

It is in the fields of general practice, tuberculosis, psychiatry, surgery and public health that the largest number of Federal medical officers are engaged. The opportunities for research in these and other fields of medicine are excellent. Because of the emphasis placed on career service by modern personnel administration, "in-service training" is playing an important part in the life of the young Government physician. In the Veterans Administration, "in-service training" affords opportunities for graduate study. The Veterans Administration operates a large tumor clinic at Hines, Ill., psychiatric clinics at its various hospitals, chest surgery clinics at the tuberculosis hospitals, and at Mt. Alto Hospital, Washington, D. C., it conducts a heart research clinic. These clinics afford excellent teaching opportunities for young physicians.

At St. Elizabeths Hospital, Washington, D. C., fine opportunities for residencies and internships in neuropsychiatry are open to recent graduates of medical schools; these residencies and internships rank among the best in the United States. St. Elizabeths Hospital is under the jurisdiction of the Federal Security Agency.

The functions of medical officers in the Food and Drug Administration of the Federal Security Agency have become of increasing importance since the passage of the Federal Food and Drug Act. Medical officers in the Food and Drug Administration are engaged in a critical review of the labelings of medicines in the light of their composition for the purpose of ascertaining whether or not the therapeutic representations are true or false as judged by a consensus of present-day medical opinion. This work offers excellent opportunities to recent graduates of medical schools who have had, in addition to their regular medical education, experience in pharmacology.

Also of increasing importance have been the medical functions of the Children's Bureau in the Department of Labor. The Child Hygiene Division of the Bureau carries on research and investigation involving fundamental technical medical study of the mental and physical condition of children in relation to heredity, environment, nutrition, and the efficacy of various methods of community health work. There are opportunities in this Bureau for young physicians with special training in pediatrics, obstetrics, or public health procedure, who are interested in extensive research study in connection with maternal and child health and services to crippled children.

In the Public Health Service, there are, in addition to the commissioned force, medical officers who are appointed under provisions of the Civil Service Act and rules. These medical officers are appointed as Acting Assistant Surgeons and are usually detailed for local duty in the vicinity in which they reside. From time to time, however, there is opportunity for them to transfer elsewhere. Acting Assistant Surgeons are employed in connection with practically all the activities of the Public Health Service. These include hospital and relief work, quarantine and immigration work, field investigations, and epidemic control duty. The Public Health Service operates marine hospitals and relief stations throughout the United States. The beneficiaries in these hospitals and relief stations consist principally of merchant seamen, officers and enlisted men of the United States

Coast Guard and civil employees of the Federal Government injured in line of duty. A considerable number of Acting Assistant Surgeons are assigned to this work.

The services of Acting Assistant Surgeons are utilized at a large number of marine quarantine stations in connection with the inspection of vessels entering the United States from foreign ports, and in connection with the medical examination of aliens entering this country. There are opportunities in the Public Health Service for Acting Assistant Surgeons to conduct investigations pertaining to industrial hygiene, goiter, anthrax, influenza, malaria, pellagra, pneumonia, tuberculosis, typhoid fever, child hygiene and public health administration.

Medical officers are employed in various other Government agencies. Two medical officers in the Government Printing Office are in charge of a small well-equipped hospital in which employees who are injured or become ill while on duty are treated. The Bureau of Engraving and Printing requires the services of a physician for similar duty. The Census Bureau of the Department of Commerce employs physicians who engage in medical statistical study. In the Civil Service Commission a number of medical officers are engaged in medical activities pertaining to Government employment and disability retirement. This activity is a combination of insurance, industrial and administrative medicine and affords young physicians a basic training in these fields which is unique in the United States.

Inasmuch as the Veterans Administration employs more civil service physicians than any other Government agency, it might be well to discuss this agency more fully. The medical service of the Veterans Administration is comprised of regional offices, facilities and diagnostic centers. The term "facility" is applied to various types of field stations, including those which are hospitals only, those which may provide domiciliary care and hospitalization, others which are a combination of regional offices and hospitals, and still others which are a combination of regional offices and homes. Facilities may be primarily designed for general (medical and surgical) service, or for tuberculosis or neuropsychiatric service. However, some have a mixed service which may be a combination of any of the above services.

The diagnostic centers located at Washington, D. C., Hines, Ill., and San Francisco, Calif., were established for intensive study and observation of patients presenting diagnostic problems, and have consultant staffs consisting of physicians with national reputations in their fields. The diagnostic center at Hines, Ill., has one of the largest and most modern tumor clinics in the world.

Small clinics for thorough diagnosis and treatment of malignant growths are located strategically in facilities in New York City, Washington, D. C., Atlanta, Ga., Portland, Ore., and Los Angeles, Calif.

In nine facilities, scattered throughout the country, centers have been created for special chest surgery.

At the Veterans Administration, research is supervised by specially trained physicians on the staff of the Medical Director, and projects are entrusted to physicians having the basic specific qualifications to conduct them.

At the present time, the chances for early appointment of recent graduates of Class A medical schools who have served an approved internship are good in the Government service. Open continuous examinations have been announced by the Civil Service Commission to fill vacancies in the position of Associate Medical Officer. Physicians appointed to these positions in the Veterans Administration have excellent chances for promotion. If their records are satisfactory, they may look forward with reasonable certainty to a step-up in grade and salary within the first two or three years of their service. The cardinal criterion for advancement in the Veterans Administration's medical service is demonstrated ability.

The matter of compensation for services rendered is an important item to consider in discussing opportunities for a medical career in the civil service. The majority of physicians are appointed in the Associate grade and receive a compensation of $3,200 a year minus a 3½ per cent deduction for retirement purposes. The opportunities offered for advancement to $4,600 and $5,600 a year are good, and many physicians who demonstrate that they have administrative ability in addition to a sound medical background may advance to $6,500 and $7,500 a year. A young physician should not expect to accumulate a fortune when choosing a medical career in the Government service; however, he can look forward to a lifetime of adequate remuneration for his service, satisfactory employment hours, and adequate annual and sick leave with pay. He will in addition receive disability and age retirement insurance at a very low rate.

The above items are important, but of course the most important consideration is the opportunity for which every physician is searching, that is, an opportunity to practice his profession and render efficient service to unfortunate human beings. The United States Government offers this career in medicine, surgery, public health, and other specialities which should be of interest to all recently qualified physicians.

NOTE: *Application forms.*—The necessary forms may be obtained from the Secretary, Board of United States Civil Service Examiner, at any first or second class post office, except in district headquarters' cities, where the forms must be obtained from the United States Civil Service district office. The forms may also be obtained from the United States Civil Service Commission, Washington, D. C. The title of the examination desired should be stated.

MEETINGS

Tuesday, Wednesday, Thursday, September 30, October 1, 2

ANNUAL SCIENTIFIC ASSEMBLY

See complete program elsewhere in this issue.

Wednesday, October 8

DAVIDSON LECTURE

(Speaker and subject to be announced)

Wednesday, October 15

"The Present Outlook in Influenza." JOHN W. OLIPHANT, M.D., Past Assistant Surgeon, National Institute of Health.

"The Etiology and Diagnosis of Encephalitis." LT. L. D. FOTHERGILL, Medical Corps, U. S. Navy; formerly Assistant Professor of Bacteriology and Immunology, Harvard Medical School.

Discussion will be led by CHARLES ARMSTRONG, M.D., Senior Surgeon, National Institute of Health, ANTOINE SCHNEIDER, M.D., Professor of Neurology, Georgetown University School of Medicine, AND WILLIAM S. ANDERSON, M.D., Associate in Pediatrics, George Washington University School of Medicine.

Wednesday, October 22

Panel discussion on "The Management of Psychoneuroses"
(Speakers and subjects to be announced)

Wednesday, October 29

"Diagnosis and Treatment of the Subclinical Vitamin B Complex Deficiencies." JULIAN M. RUFFIN, M.D., Associate Professor of Medicine, Duke University School of Medicine.

(Complete program to be announced)

Friday, November 7

Joint meeting with BALTIMORE CITY MEDICAL SOCIETY at Baltimore.

NEWS AND PERSONALS

The Forty-sixth Annual Meeting of the American Academy of Ophthalmology and Otolaryngology will be held at the Palmer House, Chicago, October 19 to 23. The program will consist of one general scientific meeting on October 19, separate programs for the two specialties on alternate afternoons, and instructional courses every morning beginning October 21.

The Seventieth Annual Meeting of the American Public Health Association will be held October 14 to 17 in Atlantic City, New Jersey. Official headquarters will be at the Convention Hall and residence headquarters at the Hotel Traymore. It is expected that this meeting will bring together more than 3,500 professional public health workers.

For the eighth time, the Section on Public Health Education of the American Public Health Association will hold an **Institute on Public Health Education,** October 12, 13 and 14, preceding the annual meeting. This will consist of a short intensive course in the philosophy, principles and methods of educating the public for health. Particular emphasis will be placed upon the contribution which the physical and mental health of the Nation can make toward the success of the defense program.

The 1941 Graduate Fortnight of the New York Academy of Medicine will open October 13 and continue until October 24. The subject of this year's Fortnight is "Cardiovascular Diseases Including Hypertension." Morning panel discussions will be held at the Academy from 11:00 to 12:30, and evening sessions at 8:30. Afternoon clinics are being arranged at a number of New York hospitals from 2:00 to 5:00. Further information may be secured by writing Dr. Mahlon Ashford, New York Academy of Medicine, 2 East 103rd Street, New York City.

Two nearby state societies are holding their annual meetings simultaneously. **The Medical Society of the State of Pennsylvania** has scheduled its Ninety-first Annual Session at the William Penn Hotel, Pittsburgh, for October 6 to 9. **The Virginia State Medical Society** has selected Virginia Beach for its annual meeting on October 6, 7 and 8.

The American Hospital Association will convene for its **Forty-third Annual Convention** in Atlantic City, New Jersey, September 15 to 19. A special committee will report on plans for protection of hospitals against air raids, sabotage and other possible disasters.

An American Committee for Medical Aid to Russia was organized in Washington by an interested group on August 19. Money will be collected in this country by solicitation, and the supplies will be bought here and shipped to Russia for distribution by the Red Cross and Red Crescent Societies there. The American Red Cross is not participating in the activity at the present time, according to Edward C. Carter of New York, Chairman of the new group. Dr. Henry E. Sigerist of Johns Hopkins University will head the Medical Advisory Board of the Committee.

The United States Public Health Service has just published a "Directory of Venereal Disease Clinics" covering the United States as a 1941 revision of its "Hospitals and Dispensaries for the Treatment of Venereal Diseases." The directory was prepared for health officers, physicians, nurses and social workers to be used in referring patients unable to pay for private care to public or semi-public medical agencies for the diagnosis and treatment of venereal diseases.

Gallinger Hospital has been recognized by the American College of Surgeons for "advanced training in surgery and in surgical specialties" for the first time in its history, it was announced by Dr. Edgar A. Bocock, Superintendent of the Hospital, on August 7.

The Hospital was recently the recipient of a respirator, for the use of infantile paralysis victims, capable of housing two patients at one time. The equipment was purchased for approximately $1,300 by the District Chapter of the National Foundation for Infantile Paralysis from receipts of the President's Birthday Ball. The respirator was presented by Judge Fay Bentley of the Juvenile Court and was accepted by Dr. Bocock.

The American Medical Association advises that on September 1 an information card will be sent out from its office to every physician in the United States and Canada in order to secure data for the Seventeenth Edition of the American Medical Directory. The directory is prepared at regular intervals in the Biographical Department of the American Medical Association. The last previous edition appeared in 1940.

Mr. Cargill, Manager of the Directory Department, urges that physicians read the instructions carefully before filling out the information card. They are especially urged to state whether or not they are on extended active duty in the Medical Reserve Corps of the United States Army or Navy. If a change of address occurs before March 1, 1942, it should be reported at once. Should any doctor fail to receive a card before the first of October he is asked to write at once to the American Medical Association, 535 North Dearborn Street, Chicago and a duplicate card will be mailed.

Dr. George M. Leiby, who has served for more than a year as Director of the Health Department's Bureau of Venereal Disease, has resigned to become

Assistant Health Officer of the Louisiana State Health Department. His resignation was accepted by the District Commissioners on August 15.

Dr. Custis Lee Hall addressed the Assembly of the International College of Surgeons, which was held in Mexico City, August 10-14, on the subject, "Series of Cases of Ewing's Tumor in Children."

Upon his own request, **Dr. F. X. McGovern** was relieved of his duties as Chairman of the Medical Section of the Health Committee of the District Defense Council. Dr. McGovern stated to the Committee on Military Affairs that so much demand was being made upon his time as Chairman of the Society's Executive Board and State Chairman of the American Medical Association's Committee on Military Preparedness that he could not continue to serve. The Committee informed the Executive Board of Dr. McGovern's decision and suggested that the following nominations be submitted to Dr. George C. Ruhland, Chairman of the Health Committee: **Dr. Luther H. Reichelderfer,** Chairman, and **Mr. Theodore Wiprud,** Vice Chairman.

The Louis Mackall Medical Society elected the following officers on June 19:

Dr. William Marbury, *President*; Dr. James E. Wissler, *Vice President;* Dr. Darrell C. Crain, *Secretary-Treasurer.*

Dr. Clifton R. Wallace has been appointed Medical Officer in Charge of the National Bureau of Standards, Washington, and began his new duties on July 16.

Dr. Walter W. Boyd has been appointed Washington Chairman of Relief Wings, Inc., according to an announcement made August 14 by the Executive Director. Relief Wings, Inc., is a national humanitarian service for disaster relief by air.

The American Can Company advises that their Canned Food Reference Manual has received recognition by the Quartermaster General in Washington. The Company was authorized to send copies of the Manual to the Commanding General and the Quartermaster at each Corps Area Headquarters; one to the Medical Officer and the Quartermaster at each of the Posts, Camps and Stations of the Army; and one to the Commanding Officer at the various Purchasing Depots of the Army throughout the country. The material was assembled in the Research Department of the American Can Company, and the text has been approved by the Council on Foods of the American Medical Association.

REPRINTS RECEIVED

The following reprints have recently been received for which due acknowledgment is made:

"Recent Urologic Curiosa." Elmer Belt, Alva C. Surber, Jr., and Carl Ebert. Urologic and Cutaneous Review, 1940.

"Some Side Effects of Sulfanilamide and Its Derivatives. Report of Five Cases." John Benjamin, Jr., and Elmer Belt. Urologic and Cutaneous Review, 1940.

"Banana Diet in Bacillary Dysentery; A Proctoscopic Study." Louis H. Block and Alexander Tarnowski. American Journal of Digestive Diseases, January 1941.

"Progress in Saving Maternal and Child Life." Richard Arthur Bolt. Annals of the American Academy of Political and Social Science, November 1940.

"Uses of the Wangensteen and Levin Tubes." James A. Bradley, St. Petersburg, Fla.

"A Combined Treatment of Gastroduodenal Ulcer." Charles A. Brusch and Joseph A. Brusch. Review of Gastroenterology, November-December 1940.

"Some Contributions of United States Naval Medical Officers to Science." Charles S. Butler. American Journal of Tropical Medicine. November 1940.

"Postoperative Venous Thrombosis and Pulmonary Embolism; Analysis of 88 Cases." Ormond S. Culp. Bulletin of Johns Hopkins Hospital, 1940, 57, 1.

"The Health and Medical Committee." E. H. Cushing. War Medicine, January 1941.

"Intramural Postgraduate Education in Obstetrics and Pediatrics." Edwin F. Daily. Journal of the American Medical Association, October 26, 1940.

"Maternal Care and Maternal Mortality." Edwin F. Daily. Wisconsin Medical Journal, November 1940.

"Treatment of Neuralgias with Prostigmin." T. Carroll Davis. Eye, Ear, Nose and Throat Monthly, September 1940.

"Chronic Arthritis." Ernest R. Eaton and George G. Haydu. Journal of the American Institute of Homeopathy, March 1941.

"The Medical Reserve Officer of the United States Navy." Comdr. Ernest R. Eaton. New York State Journal of Medicine, January 1, 1941.

"Roentgen Therapy in Acute Puerperal Mastitis." Joseph F. Elward and Samuel M. Dodek. Radiology, February 1940.

"Laryngofissure for Cancer of the Larynx." Chevalier L. Jackson. Archives of Otolaryngology, April 1941.

"The Treatment of Cancer of the Larynx." Chevalier L. Jackson. Southern Medical Journal, March 1941.

"Shall Medical Defense Be Depleted?" James O. Kelley. Milwaukee Medical Times, March 1941.

"Histamine Cataphoresis in Rheumatic Conditions and in Disturbances of the Peripheral Circulation." David H. Kling. Medical Record, December 4, 1940.

"Accidental Injuries in Office Practice." Richard Kovács. New International Clinics, 1940, 3, Series 3.

"Physical Therapy in Chronic Arthritis." Richard Kovács. 1940 Year Book of Physical Therapy.

"A Census of Physicians for Military Preparedness." Rosco G. Leland. War Medicine, January 1941.

"Cholecystitis." H. Gerald Morin, St. Petersburg, Fla.

"The Conquest of Infantile Paralysis." Basil O'Connor, President of the National Foundation for Infantile Paralysis, New York, November 1940.

"Osteogenesis Imperfecta; Its Incidence and Manifestations in Seven Families." F. Regis Riesenman and Wallace M. Yater. Archives of Internal Medicine, May 1941.

"Modernizing Medical Public Relations." Harvey T. Sethman. Rocky Mountain Medical Journal, January 1941.

"Epidural Posterior Roots Anesthesia and Analgesia." A. L. Soresi. Medical Record, March 19, 1941.

"Workmen's Compensation Diagnosis of Hernia." A. L. Soresi. Medical Record, February 5, 1941.

"Diet in Malnutrition and Celiac Disease." Genevieve Stearns, P. C. Jeans, Ruth Catherwood, and John B. McKinley. Journal of Pediatrics, January 1941.

"Maternal Welfare in Philadelphia." Ruth Hartley Weaver. The Child—Monthly Bulletin, November–December 1940.

"Bladder Tumors." Hugh H. Young. Texas State Journal of Medicine, April 1940.

"Fifty Years' Progress in Urology." Hugh H. Young. American Journal of Surgery, January 1941.

"Medical and Surgical Aspects of the Obstructing Prostate." Hugh H. Young. Proceedings of the Inter-State Postgraduate Medical Assembly of North America, October 14–18, 1940, Cleveland, Ohio.

"Operative Treatment of True Hermaphroditism." Hugh H. Young. Archives of Surgery, August 1940.

"The Pathology and Treatment of Obstructions at the Vesical Neck in Women." Hugh H. Young. Journal of the American Medical Association, December 21, 1940.

"Use of Sulfathiazole Before and After Urologic Operations to Prevent or Combat Infection." Hugh H. Young, Justina H. Hill, and James H. Semans. Journal of Urology, November 1940.

WILLIAM TIGNOR GILL, M.D.
(1865–1941)

Dr. William Tignor Gill, a Life Member of the Medical Society of the District of Columbia, and one of Washington's pioneers in medicine, died August 26, 1941, at his home, 3200—39th Street, N.W., following a brief illness.

Dr. Gill was born in Louisville, Kentucky, February 17, 1865, and moved to Washington with his parents at an early age.

He received his degree in medicine from Columbian College, now George Washington University, in 1887. He served his internship at Children's and Emergency Hospitals, and later at Bellevue Hospital in New York City. His active practice, which began in the District of Columbia in 1887, continued until his death, a period of 55 years.

Dr. Gill became a member of the Medical Association of the District of Columbia in 1888 and a member of the Medical Society in 1891. Life Membership was conferred upon him by the Society on January 1, 1929. He was a Fellow of the American Medical Association and a member of the George Washington University Medical Society, as well as a number of local civic organizations.

Dr. Gill was particularly interested in art, especially painting, and was regarded as a connoisseur in this field. In later years his interest extended to photography. His collection of motion picture films portrays scenes from his travels in Europe, Alaska, Canada, Central America and the United States. He was a member of the Washington Society of Fine Arts and the American Art and Archeological Association.

His wife, Mrs. Antoinette F. Gill, survives him together with two sons, Dr. William T. Gill, Jr., and Richard C. Gill, and one sister, Miss Emma B. Gill, all of Washington.

KATE B. B. KARPELES, M.D.
(1887–1941)

Dr. Kate Breckinridge Bogle Karpeles, well known practitioner, an Active Member of the Medical Society of the District of Columbia, died August 15, 1941, at Garfield Hospital.

Dr. Karpeles was born in Danville, Kentucky, October 2, 1887. She graduated from Goucher College in 1909, receiving a Bachelor of Arts degree. Her medical education was obtained at Johns Hopkins University, from which she graduated in 1914. She served her internship at Garfield Memorial Hospital and at the Government Hospital for the Insane. During the World War she served as a contract surgeon with the Army. After the War she returned to Washington to engage in active practice.

Dr. Karpeles became an Active Member of the Medical Society of the District of Columbia in 1916. In 1929–30 she was Second Vice President and throughout the years served on various committees. She was a Fellow of the American Medical Association.

Dr. Karpeles was President of the American Medical Women's Association in 1938. She was also a member of the Medical Women's International Association and the District Women's Medical Society, having served as President of the latter. Her interest extended to civic organizations, including the Citizens' Forum of Columbia Heights, of which she was an officer.

She is survived by her husband, Dr. Simon R. Karpeles, a son, Leo Karpeles, and a daughter, Mrs. Benjamin McKnew. Her home and offices were at 3549—16th Street, N. W.

MILES PARKER OMOHUNDRO, M.D.
(1896–1941)

Dr. Miles Parker Omohundro, an Active Member of the Medical Society of the District of Columbia, died at his home at the Park Central Apartments, 1900 F Street, N. W., on July 28, 1941.

Dr. Omohundro was born at Montross, Virginia, July 6, 1896. Following academic study at William and Mary College, he enrolled at the University of Virginia, from which he received his degree in medicine in 1922. He interned at the University of Virginia Hospital and the Blue Ridge Tuberculosis Sanatorium. He obtained his Fellowship in Urology at the Mayo Clinic, Rochester, where he remained from 1924 to 1927. He began his practice in the District of Columbia in 1928, specializing in urology.

He was a Fellow of the American Medical Association and a member of the American Urological Association. He had been an Active member of the Medical Society of the District of Columbia since 1930.

Surviving are his wife, Mrs. Nancy Yates Omohundro, and a daughter, Miss Mary Lee Omohundro. He is also survived by his father, R. B. Omohundro of Richmond County, Virginia, and three sisters, Mrs. Elmer Mateer and Mrs. Gladys Horn, both of Arlington, Virginia, and Miss Miriam Bruce Omohundro, of Washington.

SCOTT DUDLEY BRECKINRIDGE, M.D.
(1882–1941)

Dr. Scott Dudley Breckinridge, gynecologist, formerly of Washington, died in Lexington, Kentucky, August 1, 1941.

Dr. Breckinridge was born May 23, 1882, in San Francisco, California. He studied medicine at Georgetown University, receiving his degree in 1907. He began practicing in the District of Columbia in 1907, after serving his internship at Providence Hospital. In 1912 he became a member of the staff of Georgetown University School of Medicine, as instructor in gynecology.

He was an Active member of the Medical Society of the District of Columbia from 1914 to 1919.

A son, John Breckinridge, of Washington, and a sister, Mrs. Mary Vance, of Chevy Chase, Md., are the immediate survivors in this vicinity.

(*Continued from page 330*)

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THE CONTROL OF THE ANGINAL SYNDROME WITH A LOW CARBOHYDRATE DIET*

BENJAMIN P. SANDLER, M.D.
New York City

While treating a group of patients with chronic hypoglycemia I noted that in addition to the classic symptoms of faintness, nervousness, headache, dizziness, sweating and syncope, several patients had attacks of precordial pain similar to angina pectoris. The pain was often of the same intensity and radiation and occurred during rest and on exertion.

The treatment for chronic hypoglycemia consists of a low carbohydrate diet with increased protein and fat (carbohydrate, 75 to 100 Gm.; protein, 100 to 150 Gm.; fat, 100 to 150 Gm.). The patient is instructed to take some food between meals and at bedtime such as a glass of milk or tomato juice with a cracker and butter or cheese, and to avoid the carbohydrate-rich foods, bread, sugar, potatoes, cakes, candy, ice cream, spaghetti, rice, corn, tapioca, bananas, beans, prunes, split-peas, etc. Two thin soda crackers are allowed with each meal. Soybean products are used to replace cereals, and soybean flour is used for baking purposes. Carbohydrate is limited chiefly to 5 and 10 per cent fruits and vegetables.

After a week or two on such a diet I learned that the attacks of precordial pain occurred

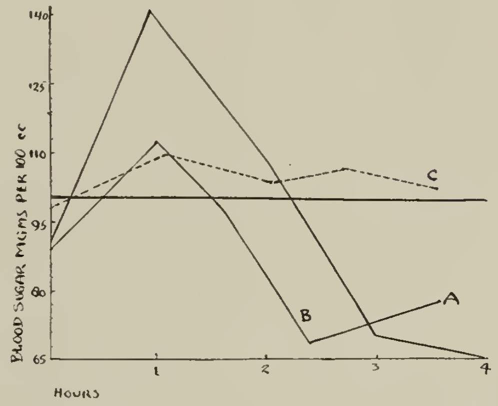

FIG. 1. Illustrating effect of various meals on blood sugar in patient with chronic hypoglycemia. Curves are typical of other patients with chronic hypoglycemia. Curve A shows course of blood sugar after 100 Gm. glucose; curve B after high carbohydrate breakfast consisting of 1 orange, bowl of cooked oatmeal, sugar and milk, a piece of cake, and coffee with sugar (C 91, P 14, F 8); curve C after low carbohydrate breakfast consisting of 1 orange, 2 eggs, 1 slice bread and butter, 4 oz. milk and 3 oz. light cream (C 25, P 20, F 22). A low carbohydrate meal elevates and stabilizes the blood sugar levels.

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* From the Medical Clinic, Morrisania City Hospital, New York; Dr. Edward Flood, Medical Director.

less often, were milder, and of shorter duration. After several weeks the attacks had practically disappeared. The effect of such therapy on the glucose tolerance is shown in figure 1.

As a result of these observations it seemed possible that a similar mechanism could be the cause of pain in patients with angina pectoris due to coronary artery disease and that a reversible labile mechanism would be more apt to cause recurrent pain than would the pathologic lesions. Glucose tolerance tests were therefore done on unselected patients with angina pectoris who had been attending the Medical Clinic and who had not been relieved of pain at any time. The patients were put on a similar low carbohydrate diet. Following are representative reports of moderately severe and severe cases.

Illustrative Cases

Case 1.—J. L., a white man aged 46, a garment worker, was first seen in the Medical Clinic in July, 1937, shortly after having been discharged from the medical ward with a diagnosis of angina pectoris and essential hypertension. While his health had never been robust, he had had no major illnesses. In 1927 he had had several asthmatic attacks, and none since then. He had a kyphoscoliosis since childhood. He was in apparent good health until May, 1937, when he began to have severe headaches. He then learned that he had high blood pressure. He soon began to have attacks of shortness of breath on climbing stairs and during sleep and to have dyspepsia.

On June 26, 1937, he was admitted to Morrisania Hospital with complaints of headaches, dizziness and shortness of breath. Physical examination revealed a poorly nourished, worried individual. The thorax was deformed due to the kyphoscoliosis and was moderately emphysematous. The lungs were hyperresonant on percussion. The heart was slightly enlarged to the left; the sounds were of good quality, and no murmurs were heard. The rate was regular and 75 per minute. The blood pressure was 160/114. The abdomen was negative on palpation. The neurologic examination was negative. The Wassermann test was negative. The urine showed no abnormality. An electrocardiogram showed no abnormality. He was treated symptomatically and was discharged after 4 days, improved.

On July 7, 1937 he was readmitted to the hospital complaining for the first time of precordial pain in addition to headaches, dizziness and shortness of breath. He said that on July 1 he had a sharp sticking pain in the precordium accompanied by shortness of breath, which came on suddenly while climbing stairs. It disappeared after five minutes' rest. The pain radiated to the left axilla, down the left arm to the elbow, and to the right chest. The physical findings were similar to those noted on the first admission. The blood pressure was 150/110. The electrocardiogram showed no abnormalities. He was discharged improved, after 5 days of bed rest. His symptoms soon recurred and he made frequent visits to the outpatient department during the rest of 1937, complaining of frequent attacks of precordial pain, shortness of breath, and palpitation, occurring two to three times daily on exertion. He also had frequent headaches, dizziness, pressure sensations over the occiput, and burning sensations over the vertex, precordium and epigastrium. The blood pressure remained elevated; the systolic ranged from 140 mm. to 160 mm., and the diastolic from 100 mm. to 110 mm.

On December 15, 1937, a glucose tolerance test showed: blood sugar, 87 mg. (fasting), 110 mg. ($\frac{1}{2}$ hour), 145 mg. (1 hour), 110 mg. (2 hours), 70 mg. (3 hours), and 65 mg. (4 hours) per 100 c.c. All medication was cut and he was put on a low carbohydrate diet with extra feedings between meals and at bedtime.

He returned on January 7, 1938, stating that he felt stronger and had less headache, dizziness and burning sensations. The attacks of precordial pain, shortness of breath, and palpitation were fewer, milder, and lasted for about a minute. His sleep was sounder. His face appeared fuller, relaxed, and had a better color. On February 8 he reported a gain of 7 pounds. This was gratifying because he was underweight and poorly nourished. The blood pressure was 146/108. On March 18 he came in with a head cold and reported freedom from pain. The blood pressure was 140/100. On April 19 he said he had had no pain during the previous 4 weeks. He had gained 15 pounds in 14 weeks on the diet. The improvement was steady and sustained throughout the rest of 1938. Once, on September 20, he reported some fleeting pain under the left costal margin occurring several times in a single week. The blood pressure on that day was 156/110.

He continued on the diet all during 1939 and made 13 visits to the Clinic during the year. He reported some slight precordial pain, lasting a few days at a time, on only two of these visits. Headaches and dizziness occurred only occasionally and were not remarkable. The weight gain was sustained. He was able to work without fatigue and engage in his usual activities.

After April, 1939 the blood pressure, which until then had shown moderate hypertension, began to be more nearly normal. The readings throughout 1940, except on April 10, were normal. During 1940 his visits were of a routine nature. He did not complain of any precordial pain, shortness of breath, or palpitation on any of these visits. Headaches and dizziness occurred occasionally and were mild. The blood pressure record of this patient is shown in table 1.

TABLE 1

Blood Pressure Readings, Case 1

1937		1938		1939		1940		1941	
6/26	160/114	2/8	146/108	1/24	130/90	1/23	124/88	1/23	110/70
7/9	156/110	3/18	140/100	2/28	146/100	2/20	126/90	4/10	130/96
9/8	156/100	4/19	130/100	5/2	120/80	4/10	136/100	5/20	120/80
11/5	145/98	9/20	156/110	8/15	115/80	7/2	126/70		
12/15	put on diet			9/5	120/80	10/15	110/80		
						11/7	120/80		
						12/5	112/80		

Comment. This patient's headaches and dizziness became milder after a few weeks and had practically disappeared after a few months, in spite of the fact that there was no appreciable fall in blood pressure. During the last 6 months of 1938 he had virtually no headaches and dizziness, yet the blood pressure was still elevated. This is emphasized because it suggests that headache and dizziness, even when present in a hypertensive patient, may not be entirely due to the hypertension. His blood pressure after January 1, 1939, except on 1 visit, was always found to be within normal limits. It has remained normal up to the time of writing, July, 1941.

Case 2.—D. K., a white man, aged 47, an unemployed veteran of World War I, was first seen on June 10, 1937, complaining of precordial and epigastric pain. The precordial pain was sharp, radiating to the left shoulder and down the left arm to the fingers. The pain would come on during sleep, before and after meals, and on walking. Excitement also brought on attacks. The epigastric pain was described as "cutting" and "gripping," was localized, and was often accompanied by nausea and salivation. At times the precordial and epigastric pain would come on together and disappear together. At other times he would have one type of pain without the other.

His first attack of precordial pain occurred in January, 1936. He was awakened from sleep at 3 o'clock one morning by a severe pain across the entire chest, radiating through the back between the shoulder blades, and down the left arm. He was unable to take a deep breath. Severe pain persisted for 24 hours. He was hospitalized at another institution. The clinical diagnosis was coronary thrombosis although the electrocardiogram showed no abnormality. He left the hospital after 10 days against advice of physicians. A few days after leaving the hospital he resumed work as a laborer but was soon laid up with a septic sore throat at a veterans' hospital for 5 weeks. Several days after discharge from this latter hospital he attempted to return to work as a truck driver. He had such precordial pain and weakness even on slight exertion that he soon quit work. Walking short distances, such as 5 blocks, caused such pain all during the summer of 1936. In October, 1936 he had another severe attack, waking him from sleep at about 3 a.m. This attack was not as severe as the previous one, and he was in bed for only 3 days. He went back to work shortly after this illness but had to quit after a few days because of pain on moderate exertion. The attacks now became more frequent. He would have them almost daily. Occasionally he was free of them for 1 to 3 days at a stretch. The pain also occurred during rest, 1 to 2 hours after meals, lasted 5 to 10 minutes, radiated to the back, the left shoulder, and down the left arm to the elbow. Taking a deep breath during an attack aggravated the pain. He also had mild bouts during sleep.

Physical examination on June 10, 1937 revealed a well developed, well nourished individual with sthenic habitus. The heart was not enlarged. The sounds were of good quality, and no murmurs were heard. The rate was regular and 78 per minute. The blood pressure was 138/80. The lungs were negative, and palpation of the abdomen revealed no abnormality. An X-ray film of the chest was normal. An electrocardiogram showed normal tracings. He was treated with various drugs with indifferent results. The attacks occurred almost daily and usually on exertion. A glucose tolerance test on January 5, 1938 showed: blood sugar, 90 mg.,(fasting), 128 mg. (½ hour), 85 mg. (1 hour), 70 mg. (2 hours), 65 mg. (3 hours), and 90 mg. (4 hours) per 100 c.c. (fig. 2).

He was put on a low carbohydrate diet with extra feedings. All medication was stopped. He returned on January 18 stating that the attacks of pain were milder, of shorter duration, and occurred about 3 to 4 times a week. This improvement occurred in spite of inability to follow the diet strictly because he could not afford the more expensive proteins and fats. By cutting down the intake of carbohydrate-rich foods and increasing proteins somewhat, together with feedings between meals, he was able to reduce the number and severity of attacks. On February 17 and on March 8 he reported further improvement with respect to the precordial pain and said that the epigastric pain had practically disappeared. On April 21 he reported complete freedom from precordial and epigastric pain during the previous 3 weeks. He was now able to follow the diet more closely. On May 10 he reported having 2 mild attacks of precordial pain since the visit on April 21. He improved steadily thereafter. On September 8 he said he had had no precordial pain since May. Since he felt so well, he went off his diet somewhat and was eating 2 slices of bread with meals and was taking sugar with his coffee. During 1939 he was virtually symptom-free.

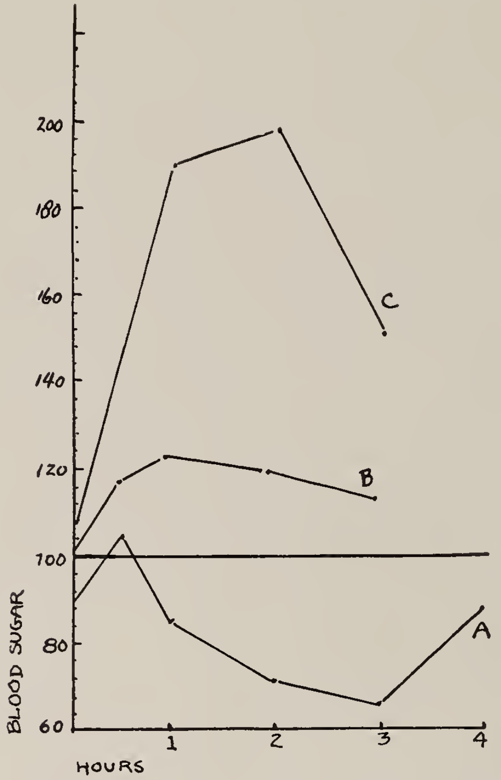

Fig. 2. Case 2. Curve A shows tolerance to 100 Gm. glucose at start of treatment with low carbohydrate diet, January 5, 1938. Curve C shows change in tolerance to 100 Gm. glucose after 9 months, October 4, 1938. Curve B shows course of blood sugar after low carbohydrate breakfast (C 25, P 20, F 22) consisting of 1 orange, 2 eggs, 1 slice bread and butter, 4 oz. milk, and 3 oz. cream. Values in curve B are all within normal range.

On May 3, 1940 he reported having short bouts of precordial pain. Questioning revealed that he was eating bread, sugar and other carbohydrate foods in liberal quantities. The recurrence of symptoms could have been attributed to carelessness with his diet. He was told to omit bread and sugar completely. He did so and became symptom-free after 2 weeks. He was free of pain when seen during July, August, September and October, 1940. On November 26 he reported mild precordial pain of a few days' duration. He admitted taking sugar with his coffee. He was again advised to adhere strictly to his diet. He did so and became symptom-free once more. When last seen in January, 1941 he said he was not having any pain.

Another symptom which greatly improved in this patient was headache. He had been having migraine headaches ever since his discharge from the army in 1918. The headaches were severe, painful and disabling. They lasted 10 to 12 hours and forced him to go to bed. They were always accompanied by nausea, vomiting and weakness. Headaches came at monthly intervals, sometimes occurring 2 to 3 times a month. After going on the diet they occurred only once a month, were less severe and less disabling. During 1939 they still occurred at monthly intervals but were definitely milder and shorter in duration. During the first 6 months of 1940 they occurred only once a month. During the last 6 months of 1940 he was entirely free of them for the first time in 22 years.

The patient was always overweight. In 1938, before going on the diet, he weighed 160 pounds, about 22 pounds overweight. After 3 years on the diet he has lost 22 pounds and maintains a normal weight. His waistline has been reduced by several inches, and the abdominal protuberance has disappeared completely.

Case 3.—A. S., a white man aged 69, was first seen in the Medical Clinic on August 17, 1937, complaining of precordial and epigastric pain, severe headaches, and dizziness. His general health had always been good until the summer of 1936, when he began to get bouts of pain on exertion and during excitement. Often the precordial pain was accompanied by epigastric pain.

The attacks gradually increased in severity and frequency so that by the summer of 1937 they occurred almost daily after walking 1 to 2 blocks. The pain was severe and "sticking," was usually localized to the precordium, but sometimes radiated to both shoulders. Rest would afford relief after 2 or 3 minutes. The headaches were severe and sometimes lasted for days. Sharp frontal pains were often present. The attacks of dizziness came on almost any time and sometimes made him walk as though drunk.

Physical examination on August 17, 1937 revealed a well developed, well nourished, nervous, florid individual. The speech was quick and stuttering. The heart was slightly enlarged to the left. The sounds were of good quality. The aortic second sound was accentuated. The rate was regular, 72 per minute. The blood pressure was 250/110. The lungs were clear and resonant. Palpation of the abdomen showed no abnormality. An X-ray film of the chest showed slight generalized fibrosis. An electrocardiogram showed sinus rhythm, rate 72 per minute, left axis deviation, slurred QRS complexes in all 3 leads, and an enlarged P wave in lead 2. Urinalysis showed no abnormality. The blood Wassermann test was negative.

He was given phenobarbital and vasodilator drugs without relief. His symptoms continued much the same during the rest of 1937. His blood pressure remained elevated and the systolic pressure always was above 200 mm. of mercury (table 2). A glucose tolerance test on January 5, 1938 showed: blood sugar, 50 mg. (fasting), 100 mg. (½ hour), 130 mg. (1 hour), 85 mg. (2 hours), 65 mg. (3 hours), and 40 mg. (4 hours) per 100 c.c. He was put at once on a low carbohydrate diet with extra feedings. He returned on January 13, 1938, stating he was unable to follow the diet because he could not afford the more expensive proteins and fats. Arrangements were made with the relief bureau to give him extra money to buy these foods. With this help he was able to follow the diet, although not completely.

He showed improvement within 2 weeks. The precordial pain became milder and occurred less often. He was able to walk greater distances. The epigastric pain disappeared after 3 weeks. Headaches and dizziness gradually disappeared. On April 12 he reported practically complete freedom from these symptoms. The blood pressure was 160/90. On April 19 he reported "rare pain," occasional headache, and no dizziness. The blood pressure was 156/90. On May 3, 1938 he reported occasional headache and said he had "no more pain at all." The blood pressure was 170/90. On all visits to the Clinic after May 3, 1938 he reported freedom from precordial and epigastric pain. He had only occasional headache and dizziness. All blood pressure readings after January 27, 1938 showed systolic readings under 200 mm. with proportionate diastolic pressures. There was no change in his weight, which was normal for his height and age.

TABLE 2

Blood Pressure Readings, Case 3

1937		1938		1939		1940		1941	
8/17	250/110	1/6	248/120	2/7	170/80	5/23	190/90	1/23	160/100
8/31	200/95	1/13	put on diet	2/21	180/80				
9/16	225/110	1/27	208/100						
10/10	210/110	2/21	160/90						
10/26	210/100	3/17	190/90						
11/30	220/110	4/7	200/100						
12/30	230/110	4/12	160/90						
		4/19	156/90						
		5/3	170/90						
		5/26	166/90						
		6/30	180/90						
		7/5	170/80						

He felt so well during 1939 that it was necessary for him to come to the Clinic only twice. During 1940 he came in only once. When last seen on January 21, 1941 he reported occasional mild precordial pain which only came on while walking. He said he could walk up to 8 blocks and return. He also got mild pain during excitement. Questioning revealed that he was eating some bread, sugar, and now and then potatoes. He said that since he was feeling so well he thought he could be more liberal with these foods.

Comment. This case shows that virtually complete relief from angina may be obtained even in an elderly arteriosclerotic with hypertension. Improvement was apparent after 2 weeks. He was virtually symptom-free after 3 months in spite of inability to follow the diet strictly. An indication of improvement was the drop in the number of visits to the Clinic during 1939 and 1940. Within a few weeks after going on the diet the blood pressure fell and remained below the original high levels.

Case 4.—W. C., a white man aged 54, unemployed, first visited the Medical Clinic on October 25, 1938, complaining of daily attacks of "warm pressure sensations" over the entire chest coming on at rest and while walking and doing light housework. He had had seizures several times daily with every attempt at walking since February, 1938. His previous health was good. He had had appendicitis in 1918.

The onset of chest complaints had been sudden one day in February, 1938, while walking in the snow. Soon after this episode, seizures came on regularly after walking 1 to 2 blocks. A typical attack would begin with an uncomfortable distressing pressure sensation in the pit of the stomach, a "melancholic sensation" in the left upper quadrant, soon followed by a squeezing vise-like tension over the entire chest, reaching to the root of the neck. There was never any sharp radiating pain. He would stand still during an attack, nervous and apprehensive, with both arms held rigid by his sides. He was unable to talk during an attack. He always tried to belch because it relieved him somewhat of the epigastric distress. Seizures would last from 5 to 10 minutes and leave him exhausted and discouraged. He would always return home, fearing to continue further. Because of these seizures he was afraid to venture forth alone and had his wife accompany him. Similar seizures, although shorter, often came on when he assumed the recumbent position, day or night. He had no headaches or dizziness. He said his head felt "foggy" all the time. Almost every morning on arising he would have nausea without vomiting. He would retch for several minutes until he felt better. There would be no desire for food for some time. His sleep was poor and restless. He would lie in bed fearful and apprehensive of nothing in particular, and would get up and walk around the room.

Physical examination on October 25, 1938 showed a florid, well nourished, well developed, apprehensive individual. The heart was enlarged to the left on percussion, and the apex beat was felt just outside the nipple line. The sounds were of good quality and no murmurs were heard. The aortic second sound was accentuated. The rate was regular. The blood pressure was 182/90. The lungs and abdomen were negative. An electrocardiogram on November 4 showed left axis deviation, notched QRS complexes in all 3 leads, and a rate of 105 per minute. The Wassermann test was negative. The urine was normal. He was treated with phenobarbital, theobromine, and other drugs for a year without improvement.

I did not see him until September 21, 1939. Physical examination showed nothing new and the history revealed the symptoms to be getting worse. The blood pressure was 152/90. An electrocardiogram showed frequent premature contractions and low voltage QRS complexes in all leads. A glucose tolerance test revealed: blood sugar, 60 mg. (fasting), 100 mg. ($\frac{1}{2}$ hour), 110 mg. (1 hour), 90 mg. (2 hours), 70 mg. (3 hours), and 60 mg. (4 hours) per 100 c.c.

He was put at once on the diet with extra feedings. He returned on October 5, 1939, stating that he had had only 1 attack on walking since September 21 and that he was beginning to feel less nervous and irritable. The blood pressure was 140/80. On January 25, 1940 he reported sustained and steady improvement. He could walk up to 5 blocks without discomfort. His morning attacks of nausea were becoming less frequent and his sleep was sounder. The blood pressure was 142/70. On April 25 he said he could walk up to 6 blocks. The seizures had gradually become milder and lasted only 2 to 3 minutes.

He was no longer nervous, apprehensive and exhausted with these attacks. He was able to speak during a seizure and no longer held his arms rigid by his sides. Whereas he formerly would get discouraged and exhausted and would return home afraid to venture further, he would now recover quickly, and once over a seizure he could walk indefinitely. He was now able to do household duties without discomfort. He was no longer afraid to go out by himself.

On July 6, 1940 he said he could walk as much as 10 blocks and return. He felt stronger and had a good appetite. He was less nervous and irritable. He had no more seizures on assuming the recumbent position. His sleep was getting sounder. The blood pressure was 130/60. After 10 months on the diet he had lost 7 pounds.

On August 22 the blood pressure was 142/60. He could walk up to 10 blocks, and the seizures after such a distance were much milder and of shorter duration. Once the seizure was over, he could walk indefinitely. He had complete confidence in himself and was not afraid to venture out by himself. On December 12 he reported sustained progress. The blood pressure was 140/70.

When last seen on January 23, 1941, in response to a request by mail, he said he could walk up to 10 blocks, get a short, mild seizure, and then be able to continue indefinitely. Occasionally he would get a mild seizure after 2 blocks. He admitted eating potatoes about twice weekly and taking 2 slices of bread with meals. The blood pressure was 170/88, and he had regained 5 pounds. He was told to cut out bread and potatoes entirely. His blood pressure record is shown in table 3.

TABLE 3

Blood Pressure Readings, Case 4

1938		1939		1940		1941	
10/25	182/90	3/23	150/80	1/25	140/80	1/23	164/82
11/3	162/80	5/4	145/70	2/27	142/70	2/20	152/66
11/17	150/80	6/6	160/90	7/6	130/60		
				8/22	142/60		
		9/21	put on diet	10/24	145/68		
				12/12	140/70		
		10/25	140/80				

Case 5.—G. S., a white man aged 53, a stationary engineer, gave a history of chancre in 1909 for which he sought no treatment. His health was always good until 1933, when he began to feel weak. Pernicious anemia was discovered at another institution and treated successfully. The Wassermann test was found to be 4 plus while under treatment for the anemia. He received intensive antiluetic therapy in 1933 and 1934. The Wassermann test was negative in 1935. He was first seen by me in March, 1938, complaining of precordial pain, shortness of breath, weakness and drowsiness after meals, and frequent night sweats. He had been attending various dispensaries for several years, receiving various drugs for his symptoms but without results. Only nitroglycerin afforded some relief during attacks of pain. On March 9, 1938 the Wassermann test was 1 plus and the Kahn test 2 plus. Antiluetic therapy was resumed at Morrisania Hospital and continued throughout 1938, 1939 and 1940.

His attacks of pain began in 1932. From the onset they occurred several times daily and persisted with this frequency until 1938. They occurred on arising in the morning between 5 and 6 a.m., with every meal, and on exertion. The pain was severe, vise-like, and usually localized to the precordium. At times pain was felt at the root of the neck and sometimes a seizure would begin with a sensation of "soreness at the root of the tongue." Sometimes the precordial pain radiated down the inner border of the left upper extremity to the wrist. The early morning attacks were severe and lasted from $\frac{1}{2}$ to 1 hour. Attacks came on almost regularly with meals. Some occurred in the midst of a meal and were accompanied by nausea and vomiting. Vomiting always brought relief from pain. Weakness and a drenching sweat would usually follow such episodes. Having vomited, his appetite would return and he would finish his meal. He was thus able to keep up his nutrition, and, in fact, he was always overweight. If the pain did not occur during a meal, it would come on 15 to 30 minutes after a meal and last for about $\frac{1}{2}$ hour. Walking a quarter or half of a city block, and moderate exertion at work, would invariably cause pain, which would disappear after a few minutes' rest. Sudden changes in environmental temperature, such as going from the warm boiler room to a cooler room, or turning on the cold water after a warm shower, would cause pain.

Physical examination in March, 1938 revealed a well nourished, well developed, florid individual of hypersthenic habitus. The heart was enlarged. A loud diastolic murmur was heard over the aortic area and at the apex. The blood pressure was 220/50. The lungs were negative. The abdomen was negative on palpation. The electrocardiogram showed a regular sinus rhythm with a rate of 56 per minute, a P R interval of 0.16 second, and left axis deviation. Leads 1 and 2 showed inverted and coved T waves and slurring of the QRS complex. Lead 3 showed a diphasic T wave and slurring of the QRS complex. Lead 4 showed a prolonged S T interval. An X-ray film of the chest revealed moderate enlargement of the left ventricle suggesting hypertension or aortic disease.

A glucose tolerance test on March 6, 1938 revealed: blood sugar, 65 mg. (fasting), 130 mg. ($\frac{1}{2}$ hour), 130 mg. (1 hour), 75 mg. (2 hours), and 60 mg. (3 hours) per 100 c.c. He was put on a low carbohydrate diet on March 8 with feedings between meals and at bedtime. On March 22 he reported he felt stronger, was less drowsy after meals, had more "pep," and "felt more lively." The attacks of pain were no longer present on arising and no longer occurred with breakfast and lunch. He still had pain on exertion and about 15 minutes after supper. On March 29 he reported that the pain on exertion was milder and of shorter duration. The night sweats were becoming less frequent. On April 19 he said he still had some pain after the evening meal; however, the pain which formerly came on about 15 minutes after he finished eating and which would last for almost an hour now came on about 3 hours after the meal, lasted for a few minutes, and was much milder. The blood pressure on April 19 was 140/50. On May 3 he reported having about 2 bouts of pain weekly, usually after supper while at rest. He had no pain on exertion. He could now walk 5 to 6 blocks without pain or other discomfort.

He improved steadily. He felt so well that he did not find it necessary to come back until November 1, 1938. He said that he had been practically symptom-free since the last visit, May 3. He said that on the day before, October 31, he had some pain about 2 hours after supper. Questioning revealed that he was taking 2 or more slices of bread with his meals. He was told to limit himself to a single slice. The blood pressure on November 1 was 148/60. He returned on November 15, December 6, 1938 and January 29, 1939, reporting complete freedom from pain. On January 29 the blood pressure was 170/60. On March 14 he came in because of a head cold. He had had no pain. On September 26, 1939, he said he had had about 6 bouts of pain during the preceding 16 months, and that he had been able to walk as much as 3 miles without pain or other discomfort. On April 6, 1940 a glucose tolerance test showed: blood sugar, 94 mg. (fasting), 149 mg. ($\frac{1}{2}$ hour), 167 mg. (1 hour), 165 mg. (2 hours), and 120 mg. (3 hours) per 100 c.c.

On January 21, 1941 he reported that all during 1940 he had had no attacks of pain with meals or on exertion, and that he was able to walk indefinitely. He felt strong and had no more weakness or drowsiness after meals. He had some slight pain on arising between 5 and 6 a.m. These attacks occurred infrequently. Questioning revealed that he was taking sugar with his coffee. He was told to omit bread and sugar completely. The patient was about 20 pounds overweight when first put on the diet. During the 3 years on the diet he lost 15 pounds. His abdomen, which was always very prominent, flattened down considerably. The blood pressure on January 21, 1941 was 160/46. There was no change in the diastolic murmur.

Comment. This patient had bouts of pain at rest, during or shortly after meals, on exertion, and with sudden change to a cold environment. The fact that the change in diet afforded relief from the attacks which occurred under such different circumstances suggests that a fundamental etiologic factor was being overcome. Further, it is customary to attribute the pain in patients with aortic insufficiency to the valvular defect in whole or in part. The response in this patient certainly suggests that the valvular defect was not an important factor in the causation of pain.

DISCUSSION

Although only 5 cases are reported in detail, an additional 10 patients with angina pectoris have been put on a similar low carbohydrate diet and have been under observation for from 1 to 3 years. All the patients have reported improvement not only with regard to pain, both precordial and abdominal, but also with regard to general health and well-being. In no instance was a rise in blood pressure observed on the high protein intake. On the contrary, any changes observed were always in a downward direction.

Evidence that the syndrome of angina pectoris may be produced by absolute and relative hypoglycemia has accumulated from various sources. Soskin and co-workers[1] induced hypoglycemia in elderly diabetics with cardiovascular disease by means of insulin. By this method they produced both objective and subjective signs of the anginal syndrome. All symptoms were relieved by glucose administration. The electrocardiographic changes were similar to those noted by Feil and Siegel[2] during spontaneous attacks of angina and to those noted by Middleton and Oatway[3] during insulin hypoglycemia, although the blood sugar was not lower than 70 mg. Soskin, in discussing the work of Middleton and Oatway, stated, "It seems likely that the pathological heart requires a greater amount of carbohydrate than the normal heart. This may account for the results of Middleton and Oatway on insulin without hypoglycemia since the blood sugars of their patients, although not abnormally low for the normal heart, may represent a state of relative hypoglycemia for the diseased myocardium." Parsonnet and Hyman[4] observed the development of the stenocardial syndrome in diabetic patients with old coronary thrombosis following doses of insulin that did not produce hypoglycemia.

That sudden lowering of the blood sugar by insulin in diabetics may cause anginal attacks and cardiac infarction has been reported several times. Joslin[5] reports cardiac infarction following insulin with a blood sugar of 30 mg. Blotner[6] reported 2 cases in which infarction occurred so soon after insulin as to suggest that the two were causally related. Hetenyi[7] cites 2 instances of diabetes associated with angina pectoris in which anginal attacks appeared to be induced by insulin. Ernstene and Altschule[8] cite reports by Gigon, Reinwein, and Van Noorden and Isaacs, all of whom observed insulin to cause death or aggravation of cardiac symptoms in the presence of heart failure. Modern[9] and Turner[10] reported cases of heart pain due to insulin, and Sippe and Bostock[11] and Rosenblatt[12] reported cases of chronic hypoglycemia with the anginal syndrome that responded to treatment with dietary measures aimed to overcome the hypoglycemia.

A low carbohydrate diet with between-meal feedings is beneficial in the management of both chronic hypoglycemia and chronic hyperglycemia because it raises the general level of the blood sugar in the former and does away with the wide fluctuations of the latter. As a result, the myocardium is assured of adequate deliveries of glucose at all times and is not exposed to sudden spontaneous lowering of the blood sugar. It is not intended in this communication to discuss the possible mechanisms responsible for this effect on the blood sugar with low carbohydrate diets. The fact is that such a change does occur (figs. 1 and 2).

In some patients the anginal seizure tends to occur at approximately the same time of the day and night. Figure 3 shows the course of the blood sugar over a 20-hour period in a patient who had his seizures almost regularly between 4 and 5 p.m. and 2 and 6 a.m. At no time during the 20-hour period was the blood sugar observed to be below 90 mg. While 90 mg. is not absolute hypoglycemia for a mild diabetic with a damaged myocardium, one may say it represents a relative hypoglycemia. This patient had a cardiac infarction 7 weeks before these blood sugar studies were made. The occurrence of pain coincides with a relatively sharp fall in blood sugar concentration to the lowest levels of the day and night. This patient responded at once to a low carbohydrate diet. He has been able to carry on full activities for the past 2 years on such a diet.

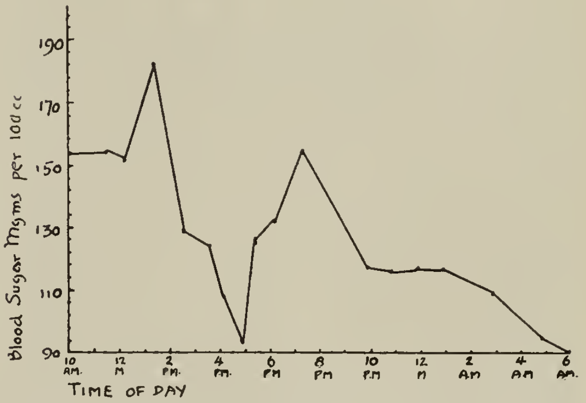

FIG. 3. Course of blood sugar over 20-hour period in patient 7 weeks after cardiac infarction. There is moderate hyperglycemia. He had almost daily attacks of precordial pain occurring only between 4 and 5 p.m. and 2 and 6 a.m. Note that the time of occurrence of the seizures coincides with sharp falls to the lowest level of the day and night. Original infarction occurred at 2 a.m.

The following observation is reported in detail since it gives a good clue as to what happens when a patient suffers an attack. A. Z., a white man aged 55, a baker, complained of frequent attacks of precordial pain radiating to the interscapular region, the left shoulder and elbow, of 5 months' duration. The attacks came on during meals, while at work, and at rest during the day and during sleep. The seizures were accompanied by anxiety and marked weakness. He finally had to stop working. Physical examination revealed good heart sounds, no murmurs, and a blood pressure of 178/110. During the tolerance test (fig. 4) the following observations were made:

8.00 a.m. Fasting blood sugar 90 mg. and 100 Gm. glucose taken by mouth.
9.00 a.m. Blood sugar 120 mg., patient comfortable.
10.00 a.m. Blood sugar 105 mg., patient comfortable.
11.00 a.m. Blood sugar 96 mg., patient comfortable.
11.35 a.m. Patient suddenly complained of precordial pain, tremors, sweating, palpitation, weakness. He was pale and apprehensive. The blood sugar was 63 mg. He was given some orange juice. The symptoms passed off in about 20 minutes.
12.00 noon. Blood sugar 125 mg., patient comfortable.

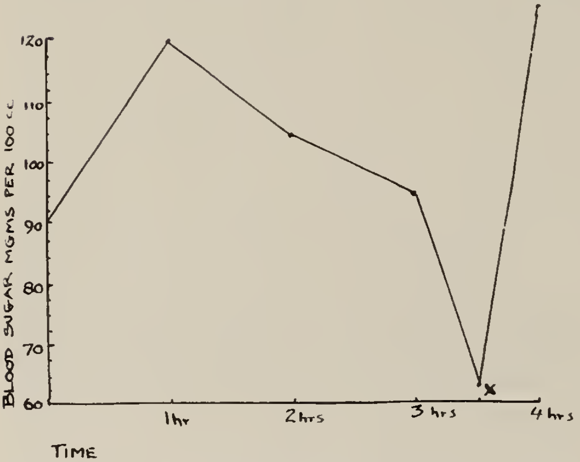

FIG. 4. Course of blood sugar during tolerance test on patient A. Z., who had a sudden attack of precordial pain $3\frac{1}{2}$ hours after ingestion of glucose. Seizure coincides with sudden fall in blood sugar at X. He felt better after taking orange juice.

These observations are most revealing. This patient was comfortable during the first 3 hours of the test. Then there was not only a swift fall but a fall to hypoglycemia when the seizure occurred, which was in no wise different from his usual attacks. The relief that followed ingestion of orange juice suggests that for acute symptoms fruit juice may be given.

During the course of these studies I have treated a small number of patients with acute cardiac infarction with a dietary régime designed after the concept that the cause of the angina is due to an unstable blood sugar with a relatively sudden lowering of the blood sugar to absolute or relative hypoglycemic levels. The diet was low in carbohydrate and carbohydrate-rich foods, high in protein, and given in frequent small feedings. The patients were put on the diet within 6 hours after the acute episode. The patients on such a régime were far more comfortable than patients with cardiac infarction whom I have observed on other dietary régimes, all of which allowed carbohydrate-rich foods.

SUMMARY

A sudden lowering of the blood sugar which may occur in the hypoglycemic, normal or hyperglycemic range, may induce a typical attack of angina pectoris. Available clinical and experimental evidence is cited to show that sudden lowering of the blood sugar may cause objective signs of cardiac damage, as revealed by the electrocardiogram, and subjective symptoms, as indicated by precordial pain or other form of discomfort. Based on the concept that the anginal syndrome is due to a disturbed carbohydrate metabolism, a group of patients with this syndrome was treated successfully with a diet aimed to combat this disturbance.

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THE COLD-PRESSOR TEST*†

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In 1932 Hines and Brown[1] reported observations on the blood pressure response of hypertensive and nonhypertensive individuals to a "strong thermosensory stimulus" which caused a vasopressor effect in 99 per cent of all subjects. They developed a standard procedure for testing the effect on the blood pressure by immersing one hand in cold water at a temperature not more than 1°C. above or below 4°C. for 1 minute. The subject to be tested rests in a supine position until his blood pressure has fallen to a stable basal level and then he places his hand in the cold water up to the wrist. During the exposure to the cold water, blood pressure estimations are made on the opposite arm at the end of 30 seconds and 60 seconds. The hand is then withdrawn from the water and the blood pressure noted every 2 minutes until it returns to the basal level. The highest pressure reached while the hand is in the water is taken as the index of the response.

Hines[2] and his co-workers have performed the pressor test about 5,000 times on 1,856 persons, of whom 1,015 usually had normal blood pressures and 841 essential hypertension. Others have reported smaller series, in some of which the original technic has not been followed exactly. I have made 209 tests on 143 subjects using the same procedure described by Hines and Brown. The patients were all males ranging in age from 29 to 72 years with the greatest number in the fifth decade, as shown in table 1.

TABLE 1

Age Distribution of All Cases

25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–72
2	2	16	58	40	11	6	8

This differs from the age distribution noted in the report by Hines since 75 per cent of his patients with normal pressure and 47 per cent with hypertension were under 40 years of age (table 2). Hines states that the mean systolic response increases somewhat with advancing age while the mean diastolic response to the cold stimulus tends to diminish so that the age distribution of the subjects is probably important.

TABLE 2

Comparison of Age Distributions

AGE	NORMAL BLOOD PRESSURE				HYPERTENSION			
	Hines		Our series		Hines		Our series	
	per cent	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*	*per cent*
0–9	12.6	75.4		11.6		47.9		18.7
10–19	32.0				3.1			
20–29	14.7		2.1		10.3			
30–39	16.1		9.5		34.5		18.7	
40–49	12.2	24.6	73.6	88.4	22.7	52.1	58.3	81.2
50–59	7.7		11.6		23.2		12.5	
60–69	4.7		3.2		6.2		10.4	

The patients included in this series were ambulatory although hospitalized at the time of the examination. For purposes of study, the subjects are divided into groups on the basis of their resting blood pressures. In the first group there are 95 patients whose blood pressures were definitely below 150 mm. Hg systolic and 90 mm. Hg diastolic. It admittedly is arbitrary to classify this group as normal since the criteria may be too high. Robinson and Brucer[3] state that the normal range of blood pressure is from 90 to 120 mm. Hg systolic and from 60 to 90 mm. Hg diastolic, but Treloar's[4] criticism of their statistical method and conclusions seems justified since the ranges which they give for normal include only 65 per cent of the subjects on which the statistics are based. Approximately half of my normal group had systolic pressures below 120 mm. Hg and diastolic pressures less than 80 mm. Hg, and by their criteria the remainder would be hypertensive. Ayman and Goldshine[5] set the upper limit of normal in their studies at 140 mm. Hg systolic and 90 mm. Hg diastolic, and all of my cases were below this standard except 3 in which the systolic pressure was between 140 and 150 mm. Hg. In the estimation of the diastolic pressures the fourth phase of the Korotkow sounds was used as the criterion, but it must be emphasized that even when the same examiner takes the pressure, as was the case in this study, there is a considerable variation in readings which tends to negate the significance of slight differences in pressure.

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* From the Cardiovascular Research Unit, U. S. Veterans' Administration, Washington, D. C.

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In the second group are included all the patients with resting blood pressures exceeding 150 mm. Hg systolic and 90 mm. Hg diastolic. There are two divisions of this group of 24 subjects each; in one, definite hypertension was present, but in the other the systolic or diastolic pressures were only slightly above the standard. Usually both pressures were not abnormal, and some question arose as to including them with the definitely hypertensive group.

Placing the hand in the cold water caused an elevation of blood pressure in all but 2 cases, a result which corresponds to the experience of Hines.[2] The 2 patients who failed to show a pressor response in both the systolic and diastolic pressures presented the classical picture of postural hypotension. In 1 case the systolic pressure fell 6 mm. and 10 mm. Hg on two occasions respectively while the diastolic pressure was elevated 2 mm. both times. In the other case the systolic pressure fell 10 mm. Hg and the diastolic pressure 6 mm. Hg during exposure to cold water. Other patients who exhibited a fall in pressure on standing erect but did not have the other symptoms and signs of postural hypotension presented pressor effects of varying degree.

If a pressor response is the usual one to the cold stimulus are there any criteria as to what constitutes a usual or normal reaction? Hines[2] now thinks that a rise in the systolic pressure of 20 mm. Hg or more and in the diastolic pressure of 15 mm. Hg or more is a significant hyperreaction. The average rise in systolic pressure of his subjects with normal response was 12.4 mm. and in the diastolic pressure 10.1 mm. Hg. Analyzing our series by these criteria, 40 of the 95 subjects with normal blood pressure gave a blood pressure response to the cold stimulus definitely below the limits, while 32 reacted excessively. In 23 cases with normal resting blood pressure, the pressor response was not easily interpreted either because the results of repeated examinations did not agree or both the systolic and diastolic elevations did not exceed the criteria. Since Hines considers the diastolic response the more reliable index, 16 of the 23 equivocal tests might be classed in the hyperreactor group (table 3). Thus about half of this group with normal blood pressures gave a hyperreactor response, whereas Hines found that this was true in only approximately 15 per cent of his series. The relatively higher incidence of hyperreaction among subjects with normal pressures might be due to the different age distributions in the two groups, since 88 per cent of my patients with normal blood pressure were over 40 years of age as contrasted with those in Hines' series, 75 per cent of whom were under 40 years of age. Pickering and Kissin[6] concluded from examination of a relatively small group that the blood pressure response to stimulation by cold increases with age and therefore a greater number of hyperreactors would be expected in the higher age groups.

TABLE 3

Normal Basal Blood Pressure

HYPERREACTOR		NORMAL		MIXED REACTIONS			
Number	Per cent	Number	Per cent	Probable hyperreactor		Mixed reactions	
				Number	Per cent	Number	Per cent
32	33.6	40	42.1	16	16.8	7	7.3

Hines found only a slight increase in the average systolic elevation with advancing age, while the average diastolic response decreased slightly. His distribution of hyperreactors by age is not shown, however, and might show an increasing incidence of hyperreaction with advancing age even though the average pressor effect was not much greater. This is suggested by my data although the numbers are too small to be significant (table 4).

TABLE 4

Normal Blood Pressure

AGE	NUMBER	PER CENT HYPOREACTOR*	PER CENT HYPERREACTOR*
30–39	7	57	42
40–49	53	58	41
50–59	9	33	55

* Not including questionable reactions.

Selection of cases presumably could influence the percentage of hyperreactors found, particularly in small series. Hines suggested that some of Pickering and Kissin's subjects might have been hypertensives in whom the blood pressure had fallen to within normal limits on bed rest. This apparently was not true in any significant number of my cases although 1 patient who was a hyperreactor gave a history indicating that hypertension had at one time been noted. Perhaps the most common characteristic of my normal hyperreactors was "nervousness," since many in this group were examined because of atypical complaints referable to the circulatory system, presumably due to psychoneurosis or neurocirculatory asthenia.

TABLE 5

Comparison of Pressor Response

	NORMAL BLOOD PRESSURE			
	Systolic basal pressure		Diastolic basal pressure	
	Less than 120	120–150	Less than 85	85–89
Hyporeactors	23	21	35	5
Hyperreactors*	16	16	29	3

* Questionable responses not included.

The criterion accepted for usually normal blood pressure might also affect the incidence of hyperreaction. In my series the distribution of normal basal pressures was about the same in the group with normal response and in the group with hyperreaction (table 5), so that within narrow limits this factor did not influence the incidence of hyperreaction.

Of the 48 patients with hypertension and borderline hypertension, there were 9 whose pressor response was within normal limits and 30 gave a definite hyperreaction by the criteria noted previously (table 6). Five of the remaining 9 cases were considered as probable hyperreactors, so that 72.9 per cent of the hypertensive group were classed as hyperreactors, compared to 50.4 per cent of the normal group. This difference appears sufficiently large to warrant attaching some importance to it, although the group as a whole is too small for percentages to be of great significance.

TABLE 6

Types of Response to Cold Test by Hypertensives

		REACTION				MIXED REACTIONS			
		Normal		Hyper-actor		Probable hyper-actor		Probable normal	
	Number	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Borderline hypertension	24	6	25.0	15	62.5	2	8.3	1	4.3
Hypertension	24	3	12.5	15	62.5	3	12.5	3	12.5
Total	48	9	18.75	30	62.5	5	10.4	4	8.3

The age distribution of the hypertensive patients shows a greater proportion of these in the fourth, sixth and seventh decades than in the normal group, although the incidence of hyperreactors varies irregularly with age (table 7).

Eight of the 9 hypertensives that failed to show an excessive response to the cold stimulus had distinctly borderline or moderate elevations of pressure above normal. The other patient exhibited very high pressure and subsequently died in heart failure with renal insufficiency. Three other hypertensive patients who had a somewhat similar course appear in the mixed response rather than the normal group of reactors, because on repeated testing they occasionally exhibited a systolic rise of over 20 mm. Hg. The "ceiling" levels in these cases were usually high, but the elevations above the basic pressures did not exceed the normal range except as noted.

TABLE 7

Comparison of Age Incidence

DECADES	WHOLE GROUP	NORMAL BLOOD PRESSURE	HYPERTENSIVES	
	per cent	*per cent*	*per cent*	*per cent hyperreactors*
-29	1.4	2.1		
30–39	12.6	9.5	18.7	66
40–49	68.5	73.6	58.3	53.5
50–59	11.9	11.6	12.5	100
60–	5.6	3.2	10.4	60

Miller and Bruger[7] also found that 24 per cent of their patients with essential hypertension did not give a hyperreaction to the cold test and that the blood pressure response to cold in patients with chronic nephritis was within normal limits. They concluded, therefore, that a hyperreaction excluded the possibility that a hypertension was of renal origin although they did not claim that the absence of hyperreaction in hypertensives indicated a renal cause. Alam and Smirk[8] had previously observed that patients with renal hypertension did not exhibit a hyperreaction to cold, and Hines has noted that patients with glomerulonephritis were less likely to manifest a hyperreaction than those with essential hypertension. These results are in keeping with the observations of Thomas and Warthin,[9] who failed to obtain consistent pressor responses to cold in animals with experimentally produced renal hypertension. It might be inferred from the work of these investigators that the cold test reveals a fundamental difference between renal and essential hypertension, but the criteria for the clinical classification of hypertension are too dependent upon personal opinion to warrant that conclusion at present.

Certainly, all patients with hypertension do not show a hyperreaction, although in practically all of the studies including my own the incidence of hyperreaction is definitely higher in hypertensives than in those with normal blood pressure. The fact that hypertensives are more prone to give an excessive response than those with normal blood pressure may be the result of the hypertension and not necessarily related to its cause. In my small series the incidence of hyperreaction in hypertensives is less than would be implied by Hines' reports, and the mean pressor effect of the cold stimulus is of about the same order of magnitude in both groups (table 8). This does not correspond to the experience of Hines, who states that the average pressor effect in essential hypertension is from 2 to 6 times greater than in normals, the mean increments being 46.6 mm. Hg and 16.2 mm. Hg for the systolic pressures and 30.9 mm. Hg. and 13.2 mm. Hg for the diastolic pressures respectively. Since the technic for the tests was similar in the two series it appears probable that the different results are largely due to sampling, particularly in regard to comparable age groups. My data compare with the observations of Pickering and Kissin,[6] who concluded that the rise of blood pressure produced by this test tends to be larger in old subjects than in young and that its size is related to the

TABLE 8

Mean Increments of Blood Pressure

	NUMBER OF EXAMINATIONS	MEAN RISE IN BLOOD PRESSURE	
		Systolic	Diastolic
Normal blood pressure	125	20.9	18.2
Questionable hypertensive	30	25.5	19.5
Hypertensive	54	28.1	20.0

degree of discomfort caused but is to a large extent independent of the resting blood pressure.

These same authors found the rise in blood pressure fairly constant for the same individual, and Hines states, "After repeating the test many times on the same individuals, I found that the results were remarkably constant, and the test has proved suitable for practical use." Ayman and Goldshine[5] did not find the same constancy reported by Hines. In some of their cases, the response varied as much as 100 per cent on different visits even when the basal pressure readings were the same.

TABLE 9

Constancy of Response in the Same Individual

BASAL STATE	RESPONSE				
	Number	Consistent			Mixed
		Normal	Hyper-reactor	Total	
Normal	29	8	9	17	12
Hypertensive	12	1	5	6	6
Borderline hypertensive	5	1	2	3	2
Total	46	10	16	26	20

I performed the cold test 2 or more times on 46 subjects, and of the 29 with normal blood pressures 9 gave a hyperreactor and 8 a normal response on all tests. Opposed to this consistent reaction in 17 patients were 12 with mixed results. Thus 9 gave a hyperreaction on 1 test and a normal or mixed response on another, and in 3 the reaction was mixed in both tests, that is, either the systolic or diastolic pressures were elevated above the critical level, but not both. Twelve hypertensives were tested more than once, and 5 showed hyperreaction, one hyporeaction, consistently. In 6 cases the response was mixed. Five of the group with borderline hypertension were given multiple tests and the results were consistent in 3, diverse in 2. Thus 26 of the 46 subjects, or slightly more than half, exhibited a consistent response to the cold stimulus that could be interpreted by the criteria set up (table 9).

There will be considerable biologic variation in any attempt to quantitate human reactions, but the large proportion of uncertain results when the criteria stipulated by Hines are applied renders the practical usefulness of the test in individual cases questionable. It has been suggested that failure to obtain consistent results in repeated trials might be due to variable basal pressures and that the highest point to which the blood pressure rose, the "ceiling," rather than the amount of elevation would be a more constant criterion. Ayman and Goldshine[5] found that the "ceiling" level attained in many of their cases varied with different basal levels, and this was true in my series. When the basal pressures, ceiling pressures, and pressure differences were compared by plotting the differences noted in 2 examinations, there was a rough proportionality between the basal pressures and ceiling values giving a sloping curve, while the actual pressor effect tended to remain constant for different basal levels. This, of course, was true only in the aggregate with exceptions, but variations of the basal pressures within moderate limits does not seem responsible for inconsistencies in the pressor responses.

In spite of this variability, there is no question that some individuals tend to exhibit an excessive blood pressure reaction to the cold test. Is this response an index of "vascular reactivity," in the sense that the blood pressure rise depends upon some peculiarity of the blood vessels and the nervous mechanism controlling their musculature, and not upon other factors known to influence the blood pressure level?

No data are available to indicate that the cardiac output is not increased during this test, and the fact that it is of short duration does not preclude this possibility. It is well recognized that psychic disturbances affect the cardiac output, tending to increase it in most instances. Grollman[10] noted that when his subjects were mentally disturbed, the cardiac output, blood pressure, and pulse rate increased. Thomas and Warthin[9] observed in normal and hypertensive dogs subjected to the cold test that the cardiac rate accelerated when there was a pressor response and remained essentially the same or slower when there was no pressor response. It seems quite probable, therefore, that both the stroke and minute volume output of the heart may be increased during the cold test and contribute to the elevation of the blood pressure.

This might not account for the variable response except that cold water at 5°C. is a potent stimulus of a painful character which evokes varying manifestations in different subjects. Some writhed with pain and refused to keep their hand in the water a full minute, while others were quite stolid and denied that it was much of an ordeal. In general, those patients who complained about the test exhibited the greatest pressor reaction. It is obvious that the same stimulus may be modified in different individuals by the receptor end organs, the afferent nervous pathways, the perceptive centers, association tracts, efferent nerves, effector contacts and finally by the vascular musculature when blood pressure effects are concerned. The excessive rises in blood pressure, in fact, may be the result of deficiencies in the aorto-carotid sinus moderator mechanism. Thomas and Warthin found that the pressor response to the cold stimulus gradually declined in normal dogs and was consistently positive only in dogs made hypertensive by cutting the buffer nerves.

In view of the many factors that may influence the blood pressure response to the cold test, the significance of a hyperreaction is uncertain for any particular individual. Those persons who react excessively to stimuli may have the background upon which vascular dysfunction and hypertension will ultimately be engrafted, but it does not seem justifiable to predict that they will develop arterial hypertention on the basis of the results of a cold-pressor test.

Summary

The effect upon the blood pressure of a standard cold stimulus was observed in 95 patients with normal blood pressure and 48 patients with hypertension.

A pressor effect was obtained in all but 2 patients who had postural hypotension.

The incidence of hyperreaction was higher among hypertensives than those with normal blood pressure, but the mean pressor rise was of about the same magnitude in both groups.

It is suggested that so-called vascular reactivity is dependent upon age, neuropsychic factors and cardiac adaptability as well as intrinsic vascular function.

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DEAFNESS—A CONSIDERATION OF ITS CAUSES

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Everyone wants to know the causes of things. It is an instinctive characteristic of the human mind. Something happens—why did it happen? Who or what made it happen? Our curiosity arises out of a feeling that if we know and understand causes, we might be able to avoid effects that are harmful and enjoy those that are to our benefit; in the case of disease, that by removing the cause we could be rid of it.

But the matter is never so simple. In its application to the problems of disease it is beset with much difficulty: First there is the difficulty in the discovery of the cause, and next the difficulty of its removal even after it is known.

There is no royal road to the discovery of the causes of a malady. Instead of just one factor which we like to think of as being the cause, there are always a number of factors, all contributory, and all to be considered in their respective bearing upon the final result.

The causes of a disease must not be confused with its pathology, which has reference in particular to the underlying changes in structure of the organ or tissues affected.

It is not sufficient or proper to say, for example, with regard to a case of deafness that it is caused by ankylosis of the ossicle or suppuration of the middle ear. This is only to state the pathology of the disease of which it is a symptom. We must go farther back and try to discover if possible the primary conditions or factors that are back of these changes.

Since a number of causes come into play in the production of deafness, some much more important than others, it requires superior judgment and a nice discrimination to assign to each its proper place in the final effect.

While not ignoring the influence of the indirect or predisposing causes, practical consideration demands that the greatest emphasis shall be placed on those which can be identified as direct or determinant.

Heredity. The factor of heredity does not apply except perhaps in a most indirect way to deafness in general; but there is one type in which it is without doubt a most important, and one might say, dominant factor. Reference is made to that bugbear of the otologists, the disease called otosclerosis.

This form of deafness is now recognized as a much more prevalent disease than was formerly thought to be the case. According to Shambaugh it constitutes about one third of all cases of chronic progressive type encountered in adults.

Much effort has been made to discover other possible causes, but the only one upon which there is any agreement is heredity. This is strongly suggested by the common observations of two or more children of the same family being similarly affected, and it has been pretty well established by a thorough study of family histories. Evidence of occurrence of the same disease in near relations can be found in approximately 50 per cent of the cases.

The heredity factor is even more firmly proved in cases of congenital deaf-mutism. Some years ago Edgar Allen Foy of the Volta Bureau of Washington analyzed 4,000 family histories with reference to this point. He pointed out that although no deafness is evident in the immediate parents of a deaf child, an undiscoverable defect is present and it will crop out according to the regular Mendelian proportion. The inheritance factor is further shown by the observation that when both parents are congenital deaf-mutes, there will be a deaf-mute offspring in every sixth or seventh case; that when only 1 is a deaf-mute, the incidence of a deaf-mute offspring is about 1 in every 30 such cases.

The importance of these facts lies in the habitual segregation of persons with this form of handicap and the natural tendency of selection of mates by reason of propinquity. This should be made clear to the persons concerned and all reasonable efforts made to discourage such fatalistic steps.

Environment. Hearing tests of school children have brought out the fact that a decidedly greater number of cases of deafness is found among the children of poorer neighborhoods than among those in the well-to-do sections. This is probably due to a difference in food, air and general hygienic conditions.

Climate. Cold and dampness are unfavorable atmospheric factors. Ear troubles are more common in the winter because of the greater incidence of colds. Acute ear infections and mastoiditis are common complications of influenza, which has its great incidence during the winter months. Susceptible persons who cannot afford it will do well, therefore, to spend these months in a mild climate, such as we have in Florida, Georgia and Southern California.

Age. Different types of deafness are associated with different groups. Acute middle-ear inflammations, though often overlooked, are particularly common in very young children. Head colds have a fatal tendency in infants to involve the middle ear and produce abscess. Measles, scarlatina, diphtheria, etc., in which serious middle-ear complications are so common, are essentially diseases of early childhood. There should be constant watchfulness for first evidence of such conditions not only because they lay foundations for future ear trouble but constitute a danger to the young child's life.

There is one ear disease, and that a very bad one, which shows a special predilection for the important years of early manhood and womanhood. Otosclerosis comes on as a rule between the ages of 18 and 20. It resists all known methods of treatment and is slowly progressive, so that once contracted it becomes a lifetime burden.

Old age, however, has its own characteristic type of deafness, one that applies without fear or favor to all people and is, therefore, strictly an age phenomenon. It is a form of nerve deafness marked particularly by a defect for the hearing of the high notes. In fact, it is such an unfailing accompaniment, and the rate of decrease keeps such a steady step with advancing years, that if disease can be eliminated, one may safely venture to estimate the age of an individual by his pitch hearing.

The upper normal limit for young persons is usually put at about 20,000 cycles per second, but after the age of 20 there is a gradual falling off, which is approximately to a note 2,000 lower for each succeeding decade, so that a table might be made as follows:

Age	*Upper Hearing Limit*
20	20,000 cycles per second
30	18,000 cycles per second
40	16,000 cycles per second
50	14,000 cycles per second
60	12,000 cycles per second
70	10,000 cycles per second
80	8,000 cycles per second

General Health. The general state of health may be assumed to have at least an indirect influence on the hearing. As a result of lowered vitality the body resistance is lessened and the individual becomes more liable to develop a cold or an infection which will affect the ear and lead to deafness.

Some writers lay great stress upon vitamins. It is known from experiments that a deficiency in vitamin A causes a deterioration of the mucous membranes. It is not certain, however, that the converse is true, viz., that an extra supply of this vitamin improves the mucous membrane.

There is as yet no clinical proof that a diseased hearing organ can be benefited by any particular vitamin or combination of them.

The role of the ductless glands is also uncertain. They are thought by some to have a certain influence in the causation of otosclerosis, but the relationship is as yet obscure.

Mental as well as physical depression is observed at times to have an influence. The hearing will often fall off, at least temporarily, in cases of great fatigue and may be persistently bad in neurasthenia or general nervous prostration.

A sudden temporary complete loss of hearing sometimes occurs as a result of hysteria.

Systemic Diseases. Certain serious systemic diseases are in some instances chiefly to be blamed for an existing deafness.

Diabetes, arteriosclerosis, tuberculosis, and syphilis may in certain circumstances seriously affect the auditory apparatus.

Syphilis, if it goes undetected and untreated, can have the most disastrous results. In former years the disease was the cause of a great proportion of cases of almost or complete deafness. But there has been a notable lessening with the recent spread of a more general knowledge of this disease and its dangers.

Focal Infection. There are many cases of deafness that can be directly attributed to the presence of focal infection in some part of the body rather than a local disease of the ears. We are indebted to Dr. Emerson more than anyone else for insisting upon this point and finally convincing the profession. A purulent focus will throw into the blood stream toxins which, when they come into relation with the delicate nerve endings of the auditory nerve, will have a serious effect upon its function. When such a condition continues for a long time unchecked, degeneration of the nerve will eventually occur.

The most common sources of such a focus are the teeth, tonsils, and the sinuses, but similar results may come from other organs, such as the kidneys, the gall bladder, or the intestinal tract.

Occupation. There are certain occupations that have a baneful effect upon the organ of hearing. Chauffeurs, teamsters, and others who have to be exposed to severe cold and bad weather conditions are liable to cold and as a consequence to ear involvement.

Occupations attended with an undue amount of dust, smoke, or irritating fumes must be regarded as unfavorable.

We have for a long time understood the evil effects upon the mucous membrane of overheated apartments. The time has now come to make known the hazard of the overcooled apartment.

Both are equally unfavorable to the proper functioning of the heat-regulating mechanism of the human body and to the maintenance of a healthy state of the mucous membrane.

Severe variations in air pressure are injurious on account of direct effect upon the drum membrane. Caisson and tunnel workers often suffer on this account. Slight and gradual changes are compensated for by the Eustachian tube, but the compensating action of the tube is inadequate for a sudden severe change of pressure, especially in cases of catarrhal obstruction in the tubes.

The eardrums are also in danger from water pressure in deep diving, and this unfortunately cannot be compensated for by way of the tubes.

The ears are naturally affected by high altitudes due to the rarefied atmosphere. High flying in some cases is followed by a definite otitis media. There is special danger in the case of obstructed tubes. For this reason one should not venture into the thin upper air when suffering from an acute cold.

Certain occupations are bad for the ears on account of the attendant noise. The ear may be injured by a sudden explosive noise, as from the firing of cannons or bursting shells, on account of the effect of the sudden air compressure on the drum; also, by excessive and disagreeable noises from their effects upon the auditory nerve. The latter is illustrated by the well-known deafness common among boiler workers and others employed in especially noisy industries.

Noises. The noises of our modern civilization are without doubt a serious menace to our ears. The noise of the world may be roughly classified as originating from the following causes: (1) animate nature, (2) war, (3) building and construction, (4) traffic and transportation, (5) manufacture, (6) commerce and (7) communication.

The noises incident to construction are probably the most intense of all those to which the modern city dweller is exposed.

It is said that the erection of the great steel skyscraper takes a heavy toll from among the workmen because of the extra hazardous nature of the work. There ought also to be charged to it certain ills of which no reckoning is usually made, and which affect not only those engaged in the work but also the innocent neighbor and the disinterested passer-by.

There is nothing that better bespeaks the wisdom of Solomon than the precaution he took for the noiseless construction of his famous temple. Since his own pastoral people were unskilled in such work, he engaged artisans from Tyre and Sidon, but he directed that all the work of cutting and chiseling of the stone should be done at a distance away, so that, as it is written, "no sound of hammer or ax or any tool was heard in the house while it was building."

Would that we had a Solomon to protect our people from the ruthless builders in our great cities. He would save many from ruined ears and shattered nerves. It is not now a matter of such mild noise as that of hand-plied hammer and ax and saw, but the unearthly din of rock drills, excavating shovels, pneumatic hammers and, worst of all, riveting machines.

Street noises are mostly those of transportation—trains, buses, taxis, trucks and private cars.

The noise of steam railway transportation has in recent years been improved somewhat by better roadbeds and better-built cars. The noise of freight cars, especially when backing and filling on a side switch, with the coupling and shrill whistles of engines, leaves, however, much to be desired.

The noises of water transportation are in general not so bad as those of land, but for persons who live near water fronts the foghorns and whistles of tugboats and other craft are often very disturbing, especially at night.

The newest arrival in the field of transportation is the airplane. It has a noise all its own, and usually of such intensity that passengers and pilot must wear earplugs and forego all conversation while en route—a noise of such stunning effect to some that they will be deafened for many hours after landing.

As noises coming under the head of commerce one should mention especially those connected with the collection and delivering of merchandise. The throwing about of boxes and barrels and tin containers are in this category.

The early morning call of the iceman and the milkman are particularly dreaded in some quarters.

We must also include here the weird call of hucksters, the hoarse shout of newsboys calling "Extra," the bell ringing of the scissors grinders—all noises with which most of us would willingly dispense.

The recent great increment in the noises of civilization is attributable to the coming into common use of measures for more rapid communication, the telegraph, the telephone and the radio.

Of all the most notable is the radio. The click of the telegraph key or the bell ringing of the telephone receiver seldom bothers anyone except those directly in the room, but the squeak and squawk of the radio are often heard through the partition walls of the apartment and are sometimes carried out of the windows to the neighbor across the street or people on the sidewalks below.

Some interesting experiments have been made by Witmaack, Yoshi, Siebenmann and others of exposing animals continuously in close proximity to intense sounds of various kinds and later examining post mortem the deafened ear. Degenerative changes were found in Corti's organ, and it is notable that they were chiefly located (in confirmation of Helmholtz's doctrine) in parts of the cochlea corresponding with the pitch employed.

The damaging effect of sound upon the nerve elements of the cochlea has been verified by recent laboratory studies. Positive evidence of injury to the basilar membrane has been repeatedly noted, and in some cases when the sound was of great intensity this membrane was actually dislodged from its normal position.

Sometimes the middle rather than the internal ear is affected by excessive noise. Sudden intense explosives, such as those of bombs and heavy machine guns, may spend their force on the middle ear, causing rupture of the tympanic membrane and hemorrhage. This may act as a safeguard against injury to the labyrinth, but labyrinthine concussion may nevertheless occur at the same time.

It is important to know that the internal ear may be injured not only by loud sounds reaching it by air conduction, but also by vibrations conducted by way of the skeletal structures. This may happen from vibrations received by way of the floor or by contact with certain parts of vibrating machinery.

Chemical Poisons. We are especially indebted to Dr. Marshall Taylor of Jacksonville for bringing forcibly to our attention the frequent and severe damage done to the ear by the ingestion of certain chemicals. By some convincing studies he has proved that these injuries are often conveyed to the unborn child from drugs taken in large doses by the pregnant mother and that some cases of congenital deafness are to be so explained.

Besides quinine, we should beware of the possible harmful effects of the salicylates and also mercury, arsenic, lead, and carbon disulphide.

We have to include among those agents possibly harmful to the auditory nerve, coffee, alcohol and tobacco.

It is true that many people use one or even all of these in excessive amount without apparent injury, but we cannot be sure that they are not causing more injury than is apparent. They are all certainly nerve poisons in excessive doses, and the nerve of hearing is especially delicate. Furthermore, as has been pointed out elsewhere, slight defects of ears are surprisingly common and many people are a little deaf without in the least suspecting it. Remember, too, that idiosyncrasies occur, and one person may be extremely susceptible to what thousands of others may seem to use with impunity.

Infectious Diseases. It is well known that the infectious diseases are prone to involve the ears, and this is particularly true of the so-called exanthemata, those contagious diseases of childhood marked by skin eruptions.

In some cases (measles, scarlet fever, diphtheria) the infection involves the middle ear; in some (mumps and meningitis) it is the internal ear. When it is the nerve that is involved the deafness is generally complete and permanent.

A child may have an attack of mumps so slight as to give no concern until it is suddenly discovered that the hearing is completely lost in one of the ears, for fortunately it is usually one ear and not both that is affected by this disease.

In meningitis both ears are often affected, with complete deafness resulting. The ears should always be closely watched in cases of measles and scarlatina, because a serious otitis may develop without pain. Influenza is probably the most potent cause of suppurative disease of the middle ear. With every epidemic of influenza there are a lot of abscessed ears, some of which go on to involvement of the mastoid.

In very young children pneumonia is almost sure to be attended with middle-ear inflammation.

The Common Head Cold. If we keep in mind the relationship between nose and ears we shall have no difficulty understanding how ear troubles occur in the common head cold.

The Eustachian tube is the connecting link between the nose and the ear. When everything is normal it serves a useful purpose in allowing air to enter the middle ear and in allowing excess of fluid to escape. But when conditions are abnormal it becomes the pathway for the entrance of disease.

"*Adenoids and Tonsils.*" In the case of children we must rate as the most important of all the causes of deafness, hypertrophied adenoids and diseased tonsils. This is supported by a great mass of statistics from many sources. But statistics are not necessary, because all physicians and many laymen have in their own experience evidence of the relationship. We are all familiar with the cases of children who were constantly having trouble with their ears, earache and abscesses, all winter through, and who as soon as the adenoids and tonsils were removed were relieved as if by a miracle.

The adenoid has some useful function in children up to about the age of 4 years, when it should begin to atrophy and disappear. But unfortunately it so often takes the other turn. It is easily inflamed, and as a result it becomes thickened and so enlarged as to often fill the entire cavity back of the nose. Since the Eustachian tube openings are located on each side of the cavity, the adenoid may grow over them and cover them up.

This is bad because it interferes with the natural function of the tubes, which is to ventilate and drain the cavity of the middle ear.

When the adenoid becomes acutely inflamed, as so often happens, there is great increase of secretions, and then all the region becomes bathed in mucopus swarming with germs. Thus is added to the mechanical effects of obstruction the likelihood of the extension of infection directly through the tubes to the tympanic cavity.

Crowe of Johns Hopkins has recently called attention to the failure of the hearing to improve after operation due to the persistence of small remnants of lymphoid about the mouth of the tube. He suggests for such cases the employment of small doses of radium applied by means of a tube passed through the nose.

The Sinuses. The middle ear may be regarded in a sense as only another of the nasal accessory sinuses, for like them it is a small cavity hollowed out of the bone, containing air, connected with the passages of the nose, and similarly lined with mucous membrane. Like the nasal sinuses proper, therefore, one may naturally expect that in any severe cold, especially such as exists in attacks of grippe, the ear too will be involved.

Another thing to remember is that as a result of what is called ciliated action, all secretions of the nose are constantly being propelled backward into the nasopharynx. When, therefore, the nasal sinuses are badly affected and are producing pus, one finds regularly the region about the mouth of the Eustachian tubes occupied by a purulent secretion. In such a case infection of the middle ear sooner or later is almost inevitable.

Cullom found that 85 per cent of all of his cases of mastoiditis which came to operation gave a definite history of sinus infection.

In this connection must be mentioned the swimming pool, to which both sinus and ear infections are frequently traced. It is of course stupid to imagine that one can prevent middle-ear infection by the use of an ear protector worn in the canal, except in the case of a ruptured drum membrane, in which it is advisable.

In all other cases the infection reaches the middle ear by way of the Eustachian tube.

Since middle-ear trouble so often develops as an extension of inflammation through the tube, it is obvious that all causes of diseases of the upper air passages may be considered possible indirect causes of ear disease.

Reports new operating procedure for acute mastoiditis. A new procedure in the operation for acute mastoiditis wherein sulfanilamide or sulfathiazole crystals are placed in the cavity after the operation and the wound then tightly closed instead of the usual procedure of leaving therein a rubber drainage tube, is reported in J. A. M. A. for September 27, 1941, by George S. Livingston, M.D., Chicago.

The procedure was used in 13 cases, he says, and the experience gained "shows that it is entirely feasible to close a mastoid wound without drainage if the cavity is filled with sulfanilamide or sulfathiazole. In nearly all the cases the wound healed in a remarkably short time and the long tedious period of dressings was eliminated. The absence of local inflammatory reaction indicates not only that there is a prompt elimination of infection but also that the drugs have no adverse effect on the tissues. . . ."

Dr. Livingston says there was no significant difference between sulfanilamide and sulfathiazole but that future experience may favor the use of some of the more recently synthesized sulfonamide compounds.

AUSCULTATORY PERCUSSION

A MODIFICATION USEFUL IN DETERMINING THE CARDIAC OUTLINE IN INFANTS AND YOUNG CHILDREN*

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Many practitioners appreciate the difficulties associated with indirect or mediate percussion of the heart in infants and young children. The percussion note over the chest wall is hyperresonant, and changes in sound are not easily recognized. This is because the chest wall is thin and the underlying tissues do not have the depth found in adults. In addition, the lungs are thin, elastic and contain large amounts of air. Further difficulty is encountered because examination is frequently conducted when the child is restless or crying. The purpose of this paper is to call attention to the value of auscultatory percussion in determining the cardiac outline of infants and young children, and to introduce a modification of this type of percussion.

Auscultatory percussion, as mediate percussion, depends upon sound transmission. Vibrations of the underlying tissues are set up by the percussing finger or instrument,† which produces sounds that vary in intensity, quality and pitch. Norris and Landis[1] state that the vibratory capacity of the tissues depends upon the size and character of the air-containing spaces, the amount of elastic tissue, the degree of tension and the thickness of the tissue. The density and elasticity of the medium determine the ease with which sound travels. The intensity will be greater the more dense the medium, despite the fact that a medium of lesser density is in close apposition. In infants, because the ribs are not completely ossified, greater penetration of sound with less radiation occurs, thus simplifying topographic diagnosis.

The auscultatory method of percussion is used relatively little as a diagnostic aid. Some physicians believe the examiner tends to deceive himself as to the interpretation of sound changes. However, with a little experience, these changes are not difficult to evaluate. Benedict[2] checked the method at operations by fluoroscopy and radiography, and at necropsies by driving bank pins into the body wall. His findings by auscultatory percussion compared favorably with the above mentioned methods.

The accepted procedure is to place the bell of the stethoscope over the sternum about the level of the fourth rib and to percuss lightly with the finger or instrument the surrounding regions in gradually narrowing circles. When the cardiac border is reached by the percussion blow, the increase in intensity becomes apparent. Tocantins[3] suggests that differences in sound may be brought out by placing the bell of the stethoscope over a known resonant area rather than over the area of cardiac dullness. Abrams' modification[4] consists of percussion of the acromial end of the clavicle and auscultation along the interspaces.

In our hands excellent results have been obtained by placing the bell of the stethoscope in the right anterior axillary line at the level of the fourth rib, when the left border of the heart is to be outlined, and in the left anterior axillary line at the same level when seeking the right border of the heart. Percussion is then carried out from lateral to medial along the interspaces. We have found the fountain pen or percussion hammer very satisfactory for producing sound vibrations. The changes sought are first the intensity and then the quality of sound. For better appreciation of the latter, the following method is suggested, the bell being covered with a rubber nipple, so that the base of the nipple can be applied to the chest wall. The lateral margin of the bell is pressed firmly against the chest and the medial part is raised slightly off the chest. The procedure is otherwise as outlined above. This allows both superficial and deep sound waves to be transmitted to the ear.

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* From the Department of Pediatrics, Gallinger Municipal Hospital, Washington, D. C.

† Vibrations may be produced by actual percussion or stroking with the finger. Other means include the use of a fountain pen or pencil, percussion hammer, tuning fork, etc.

It should be remembered that the intensity of sound becomes greater as the point ausculted is approached. However, this gradual change is minimized by the sudden alteration that occurs when the cardiac border is reached. This was proved by percussing vertically down the chest wall over resonant lung tissue, and horizontally across the area of cardiac dullness. When the heart is reached by the latter method, there is the sudden change described. However, when the bell of the stethoscope is approached by percussion over resonant areas only, no sudden change occurs.

The advantage that auscultatory percussion in infants has over the indirect form lies in its ease, accuracy and dependability. Finer differentiaton of quality is obtained by the suggested modification, which also simplifies the procedure by eliminating the necessity for circular percussion. If the standard method is performed on infants, the percussing finger and the bell of the stethoscope would lie too close to one another, thereby distorting sound changes. Thus, the reasons for eliminating circular percussion and placing the bell on the anterior axillary line are that the procedure is made less difficult and sound changes are more clearly interpreted.

The cardiac findings in children by this method of percussion were closely corroborated by roentgenograms and fluoroscopy. The group of children studied included both those with normal and those with enlarged hearts.

SUMMARY

A modification of auscultatory percussion, which was found particularly suitable for use on infants and small children, is suggested. It is a simple procedure for which special skill is not required. The technic can be mastered in a short time and can be performed when the child is straining or crying. The change in intensity and quality of sound is definite when the cardiac border is reached. It was found to be accurate when compared with fluoroscopic examination and roentgenograms. Support of diagnoses of congenital heart disease in newborn infants and other cardiac diseases in older children have been borne out. This form of percussion should become more widely used, particularly in pediatric practice.

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A more conservative attitude toward appendectomy advised. Additional evidence of the importance of a conservative attitude toward operations for "chronic appendicitis" is presented in J. A. M. A. for September 20, 1941, in a report by RICHARD WARREN, M.D., AND H. THOMAS BALLANTINE, JR., M.D., Boston.

From their study of 138 cases in which an uninflamed appendix had been removed because of abdominal pain, the authors conclude that "chronic appendicitis" is a clinical entity consisting of recurrent pain in the right lower portion of the abdomen which is usually unrelated to past or present disease conditions in the appendix. However, about three fourths of the patients experienced partial or complete relief from the symptoms that they had before the operation and one fourth remained unimproved or were made worse.

Patients with a long history and those with numerous attacks of pain did not have such a high percentage of good end results as did those with a short history or those with few attacks. Better results were achieved in men than in women. The mortality from the operation is low, but the morbidity and the period of incapacity cannot be ignored, the authors say.

"The results described," they declare, "should be regarded as grounds for the adoption of a more conservative rather than a less conservative attitude toward operation for chronic appendicitis."

Elaborating on the poorer results obtained in the group of patients with long histories and numerous attacks, the two men say that those results might be explained by the fact that when a patient complains of "innumerable" attacks for "years" one must be on guard for emotional or mental factors which might influence the picture.

"Appendectomy," they say, "as a form of psychotherapy is not good treatment. It may be also that those persons with a short history or with only a few attacks were those with true digestive complaints of obscure nature and that appendectomy was only coincidental with the spontaneous remission of symptoms."

AN EDUCATIONAL CAMPAIGN ON THE MENACE AND CONTROL OF ACUTE APPENDICITIS*

E. A. Cafritz, M.D., F.A.C.S.
Washington

More than 200,000 persons in the United States died of acute appendicitis during the years 1928 to 1940. There should be no mortality from acute appendicitis. When anyone dies from appendicitis, someone is to blame. People die because the appendix is allowed to rupture. Rupture of the inflamed appendix may occur as a result of giving laxatives.

John Bower of Philadelphia found that of those patients admitted to the hospital with acute appendicitis who have received no laxative, 1 in 57 dies; of those who have received 1 laxative, 1 in 18 dies; of those who have received more than 1 laxative, 1 in 19 dies; of those admitted with acute appendicitis and local peritonitis, 1 in 44 dies; and of those admitted with acute appendicitis and spreading peritonitis, 1 in 4 dies. The mortality rate in 28 hospitals surveyed in Philadelphia has been reduced approximately 60 per cent from 1929 to 1937.

The mortality rate of acute appendicitis in Washington is 4.5 per cent. The mortality rate of acute appendicitis with peritonitis in Washington is 18.5 per cent The rate can be reduced 50 per cent or more the first year. How? The following plan is suggested.

I. Pre-hospital or prophylactic treatment consists of:
    A. Informing the public of the dangers of delay in seeking medical advice and of the dangers of using laxatives in the presence of abdominal pain by:
        1. Sending stickers to physicians to be distributed to their patients with the following: WARNING: In the presence of abdominal pain never give a laxative or physic. Give nothing by mouth. Call your family physician. Abdominal pains, cramps, or soreness which lasts 4 hours is usually serious. (Penna. Med. Soc.)
        2. Procuring the coöperation of the druggist in refusing the sale of physics in the presence of abdominal pain, and displaying placards in the drug stores with a warning such as: APPENDICITIS: Severe pains in the stomach are often dangerous. Do not take a purgative. Call a physician. Deaths from appendicitis are increasing annually.
    B. Giving radio health talks and articles containing warnings and advice to the public which should also be published in the newspapers and magazines.
    C. Giving community talks, especially to high school children, since more than 35 per cent of acute appendicitis cases occur in this group.
    D. Teaching medical students, interns, and physicians in general practice to diagnose appendicitis early; to appreciate the importance of the increase in mortality with increase in time between the onset of symptoms and operation; to emphasize the following:
        1. Diagnosis of acute appendicitis
            a. Only one symptom is always present—pain
            b. Only one sign is uniformly present—tenderness (absent in 11 per cent)
            c. Only one corroborative test exists—leukocytosis (absent in 20 per cent).
    E. Requesting the surgical staff of the hospital to carefully study the mortality of acute appendicitis and adopt measures to combat the high rate.

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* From an exhibit at the Annual Scientific Assembly of the Society, October 15 to 17, 1940 at the Mayflower Hotel and of the Post-Graduate Clinic of the George Washington University School of Medicine, February 14 and 15, 1941.

II. Hospital treatment (based on the principles of early appendectomy in practically all cases of acute appendicitis and early removal of the appendix for acute appendicitis with perforation to prevent the spread of peritonitis)*†:

A. Preoperative treatment:
1. General survey of the patient with history, physical examination and laboratory work-up
2. Relief of dehydration with salt or glucose solutions intravenously
3. Selection of the anesthetic (spinal, avertin, etc.)
4. Preoperative medication (morphine, etc.)

B. Operation:
1. Incision—McBurney with few exceptions
2. Removal of exudate, excessive free fluid, with an aspirator
3. Removal of appendix in the simplest manner possible: mesoappendix and base of appendix ligated with no. 1 chromic catgut separately and the base not crushed or inverted
4. Drainage:
    a. None in the peritoneal cavity unless the appendix cannot be removed, or in cases where a large amount of necrotic tissue is left in the abdominal cavity
    b. Suture of the abdominal wall down to the closed peritoneum

C. Postoperative treatment:
1. Use of morphine or one of its derivatives every 4 to 6 hours for the first 24 to 48 hours
2. Use of Wangensteen drainage immediately after anesthetic reaction for 2 or 3 days until the abdomen becomes softer and the patient begins to pass flatus
3. Maintenance of water and chemical balance by the use of glucose and salt solutions alternating every 6 hours; net intake for the average adult, 4,000 c.c. daily
4. Use of blood transfusions if the patient shows toxemia or if anemia is present, and with few exceptions if the hemoglobin is at or below 65 per cent
5. Placing the patient flat on his back in the normal bed position, not Fowler's position since it encourages the formation of pelvic abscess
6. Making a complete blood count with Schilling index every day to determine the necessity and type of supportive treatment (blood transfusions, etc.), and to aid also in determining the severity of the toxemia
7. Use of the rectal tube regularly to aid the removal of flatus and fluids from the lower bowel
8. Drainage and removal of skin clips on the fourth or fifth day if no infection occurs

D. Ochsner type of treatment if operation is delayed:*
1. Fowler's position
2. Wangensteen apparatus
3. Drainage
4. Morphine every 4 or 6 hours
5. Maintaining water and chemical balance—salt, glucose and blood transfusions

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* Forty-nine consecutive cases in this group have been treated with the above method without a death.

† The use of sulfanilamide has been discontinued since it has been shown to be of no special benefit to the patient.

* This type of treatment is carried out when the patient shows evidence of severe toxemia (high fever, rapid pulse and respiration, Hippocratic facies, general rigidity of the abdomen, nausea and vomiting). This type of case usually makes its appearance 72 to 84 hours after the onset of symptoms. This treatment is carried out with the hope that the generalized peritonitis will resolve into a localized abscess.

If the above symptoms occur within 48 hours immediate operation should be encouraged since this procedure will prevent further leakage from the appendix and at this stage of the disease the resistance of the patient is still at a high level.

6. Use of hot abdominal stupes to localize infection and relieve distention

E. Acute appendicitis with localized abscess, not subsiding, following an observation period of from 4 to 7 days:

1. Operation: If the mass does not recede or if the signs of infection continue, a small incision over the abscess and insertion of a penrose drain inserted without attempt at this time to remove the appendix.
2. Indications for operation:
   a. Septic temperature and rapid pulse
   b. Presence or increase in size of mass
   c. Leukocytosis
   d. Increased abdominal pains

F. Acute appendicitis with localized abscess, subsiding, following an observation period of from 4 to 7 days:

1. Watchful waiting, since if the mass continues to disappear, the temperature and pulse rate subside, and the blood count returns to normal, all indications are that the patient will overcome the attack.
2. Advice to return in 6 weeks after discharge for removal of the appendix.

NATIONAL HEARING WEEK

National Hearing Week will be observed for the 15th consecutive year, October 19 to 25. The Editors of the MEDICAL ANNALS wish to bring the Week to the attention of its readers, and are publishing in this issue an article on the causes of deafness, written by Dr. Walter A. Wells.

President Roosevelt, in giving public recognition to the work of the American Society for the Hard of Hearing, stated: "It is very heartening to me, and it must be to our citizens, to know that in our land we are taking time to help our people who are less fortunate than ourselves, while in many lands there seems to be no consideration for children or adults of any class."

The American Otological Society has estimated that there are already ten million or more individuals of all ages in the United States whose hearing is affected. The American Society for the Hard of Hearing, through its branch offices, is coöperating with the Rehabilitation Service of the United States Office of Education in preparing this vast army to take their rightful places in office, industrial plants, professions, or wherever their talents fit them to serve. District physicians are offered the services of the Washington Society, located at 1537 35th Street, N. W., who will assist patients in selecting hearing aids best suited to their needs and who will inform them where they may study lip reading.

PRESIDENT'S PAGE

IN RETROSPECT

The 13th Annual Scientific Assembly more than lived up to expectations. Not only was the attendance larger than at any previous meeting but plans for the Assembly were most efficiently carried out. Too much credit cannot be given Dr. John R. Cavanagh, General Chairman of the Committee on Arrangements, and the Chairmen of Subcommittees.

Few of our members realize, I am sure, the immense amount of work which goes into the Assembly. Preliminary planning begins about the first of the year, intensive efforts being put forth during the last two or three months. The first step is usually to decide on the date the Assembly is to be held. Then follow many details, including correspondence with speakers and exhibitors. As the Assembly is more than a local meeting, preliminary programs must be prepared considerably in advance and mailed to thousands of physicians in nearby states. Space must be allotted to exhibitors in such a manner as to make their displays most effective. Special projects such as the Public Health and Military exhibits require the coöperation of numerous agencies. The latter was a most ambitious undertaking and much credit should be given to those who labored so diligently to make it a success.

I mention these things so that members will appreciate more fully that the Assembly in its present stage of development is a great undertaking. It is my earnest belief that it has still greater possibilities and I am certain that it will do much to demonstrate to the profession in the southeastern states that Washington is a great medical center. Certainly attendance of physicians outside the District should grow each year and I am confident that it will.

Henry R. Schreiber

EDITORIALS

REHABILITATION STUDY

In an effort to devise a plan by which selectees with remediable physical defects can be made fit for military service, studies are to be conducted in 21 communities of the country. The District of Columbia is one of the communities in which a survey is to be made. Data obtained from the various parts of the country, it is expected, will reveal the percentage of remediable defects, the number of selectees who will coöperate, and the cost of rehabilitation. Should the result be at all encouraging, Congress will be asked to appropriate funds for rehabilitation.

The study in the District has been under consideration for several weeks by Colonel Leonard G. Rowntree, Chief of the Medical Division of the Selective Service System and the Medical Advisory Council to National Headquarters of Selective Service. Originally it was proposed to Colonel Rowntree by officials of the American Red Cross. Several plans were discarded before one was developed which met with approval.

By order of General Lewis B. Hershey, Director of the Selective Service System, the study will be made under the supervision of the Director and the State Medical Officer of Selective Service in the District of Columbia. Assisting in the survey will be the American Red Cross, the District Medical and Dental Societies, the Medico-Chirurgical Society, the Robert T. Freeman Dental Society and the Health Security Administration.

It is proposed that some five or six hundred selectees in Class 1B whose defects can be remedied within a period of six months, making them fit for military service, will be included in the survey. The first step to be taken is to contact the selectees through their local boards, requesting that they report to a designated hospital for reëxamination. If it is determined that the selectee can be rehabilitated, he will be asked to complete a questionnaire in which he will state his ability to pay all or part of the costs of remedying his defect, whether or not he will consult a private physician or dentist, and if so whom, and if not financially able to pay, whether he will accept the services of an established public or private health agency. The completed questionnaires will be turned over to the Health Security Administration which will determine the selectee's ability to pay and the cost of his treatment in a public or private institution.

Although no definite plans have been announced, the establishment of rehabilitation agencies through the country is contemplated should Congress appropriate funds. These agencies would be charged with the responsibility of providing medical and dental services to selectees rejected because of remediable physical defects.

Obviously, the medical profession has a vital interest in the manner in which the proposed agencies will be organized. The fact of the matter is that the rehabilitation program has deeper significance for the medical profession in this country than most physicians realize. The profession should therefore be prepared to cooperate and lend its leadership.

PANEL DISCUSSIONS

The response to a recent questionnaire sent by the Program Committee to the members of the Medical Society indicated a strong interest in the use of panel discussions as a method for presentation of the scientific programs at the Society meetings. Since this type of meeting seems to appeal to the members almost as much as the plan to have short talks on related subjects, four or five panel discussions have been included in the program for this year. It is hoped that they will create the kind of enthusiasm that makes the panel discussions the high lights of the meetings of the American College of Physicians and the American College of Surgeons.

Two advantages of this type of presentation are that a wide range can be covered by the men on the panel, and that the listeners are participants by reason of having sent in the questions that direct the channels through which the discussion flows. The only difficulty develops from the need for careful preparation of the discussion in advance. This the Program Committee seeks to overcome by sending to members a form on which questions can be returned to the men on the panel in time for adequate thought to be given to the subject. The success of the meeting, then, rests with each member and it is felt that active participation will keep alive active interest.

H. H. H.

A WORD OF CAUTION

Conditions in the Nation's Capital have changed considerably since the last meeting of the Medical Society in May. The city's population has increased by several thousands due to the rapid expansion of the National Defense Program. It is reported that 35,000 additional Government workers will come to Washington in the next few months. As a result, physicians in the District of Columbia will be busier than they have been since the days of World War I.

Herein lies a real danger, for if physicians permit themselves to become so occupied with their professional work that they give little or no thought to general problems relating to medical practice, the consequences may well prove serious. It will not be difficult for practitioners to justify their neglect of such matters. After all, they may argue, their practices come first. Consequently attendance at business meetings of the Society will be considered unimportant in the face of other demands made upon their time. Those who take this attitude will, of course, lose touch with affairs which may have a vital effect upon their future.

The threats inherent in this situation always exist where physicians have all the practice they can take care of. But a "boom" such as Washington is experiencing now is only temporary. Difficult days—and how difficult we can only hazard a guess—lie ahead. Now is the time to prepare for the period of readjustment which every thinking person knows is inevitable.

Officers of the Medical Society of the District of Columbia are aware of a number of serious problems which will confront the medical profession in the near future. They propose to keep the membership informed in regard to them. However, their efforts will prove to be ineffective unless members are actively interested.

The Society's organization year is just getting under way. Therefore, a word of caution seems in order. Keep closely in touch with developments by attending business meetings of the Society. No physician has a right to criticize actions taken by the Society unless he is on hand to express his views and indicate his wishes. Busy though he may be, he should look to the future and help guide the destinies of his profession.

PERTINENT PARAGRAPHS

September Meetings Although attention of the Society's officers and several of its committees was devoted largely to preparations for the 13th Annual Scientific Assembly, other committees were active during the month of September. Meetings were held by the following boards and committees:

September 5	Subcommittee on Military Exhibit, Annual Scientific Assembly Medical Bureau Committee
September 8	Committee on Public Health
September 9	Subcommittee on Public Meeting, A.S.A.
September 10	Committee on Military Affairs Grievance Committee
September 15	Committee on Sports Program Committee
September 16	Committee on Arrangements, A.S.A.
September 19	Committee on Military Affairs
September 22	Executive Board
September 26	Committee on Military Affairs
September 29	Board of Censors

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"Gold Stars for Blitz Behavior" The courage with which the civilian population in devastated countries has met the horrors of war has been an inspiring revelation. Dorothy Thompson, whose writings are perhaps the subject of more controversy than those of any other commentator, will arouse no dissension when she observes that the free professions in England's middle class have come through bombings with colors flying. She says:

"What sort of person stands up best in the blitz? Who runs to cover and who doesn't? Who thinks first of the other fellow and who thinks first of himself? Who suffers a nervous collapse and who emerges cool and smiling?

"There is no doubt about the answer. The replies have been unanimous. Persons who have shown the most coolheadedness, swiftness in action in an emergency and sheer courage are that long-despised middle class. . . .

"Which middle-class occupations have shown the highest standard of behavior?

"Again the answer is unanimous—the free professions. Curiously, perhaps astonishingly, the intellectuals. Doctors, lawyers, school teachers, pastors, engineers, dentists, journalists, writers, artists and actors are far above the small or large businessmen; they and skilled workers—railroad men, skilled mechanics, machine-tool makers and operators.

"Persons whom their friends always have regarded as neurotics, highly-strung, nervous ladies, gentlemen with tendencies to develop stomach ulcers, get gold stars for their blitz behavior."

These observations will not surprise the medical profession, since in every catastrophe doctors have carried on unflinchingly in the face of grave danger. Whatever may be the lot of the people in this country in the coming months, no one will have reason to doubt the morale of the profession.

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The Private Physician in Preventive Medicine Much has been written about the role of the private physician in preventive medicine. The record shows that too often he has not been an important factor. This situation is a challenge to medical societies and health departments, which should make a determined effort to correct it.

In an article entitled, "The Private Physician in the Campaign against Diphtheria," by Drs. Abraham Gelperin and Carl A. Wilzbach, which appears in the October issue of the *Ohio State Medical Journal*, the policy of the Cincinnati Health Department as it relates to the participation of private physicians in the local immunization program is described as follows:

> "1. Since the Health Department is the official health agency responsible for the control of communicable diseases, the utilization of a prophylactic procedure for the prevention of a formerly unpreventable disease was considered to lie within its domain.
>
> "2. Free prophylactic inoculations were offered to all, and it was hoped that public health education, by both the Health Department and the private physician, would create an acceptance of diphtheria prophylaxis as a necessary part of infant care.
>
> "3. During the first years of the campaign, parents were urged to go to their own doctor for the inoculations, but the issue was not pressed. The objective during the first few years was to see to it that as many children as possible received prophylactic inoculations. As diphtheria prophylaxis became more and more an accepted procedure, the department began to emphasize the necessity of parents going to their family doctor. We still continue to inoculate all who insist upon it, but it has been noted with satisfaction that parents, on the whole, are beginning to expect to pay for diphtheria prophylaxis.
>
> "4. Some physicians did not believe in diphtheria prophylaxis. Nevertheless, their attitude has been observed to change because it became difficult not only to refuse to give prophylactic inoculations to the children of patients who came to their offices and requested the procedure, but also to ignore the fact that diphtheria prophylaxis had become an established part of the medical practice of a great majority of physicians.
>
> "5. The private physician was made an integral part of the diphtheria control program. The official attitude of the Academy of Medicine was publicized and physicians were personally contacted by Health Department nurses. They were consulted when problems pertaining to patients were encountered."

Although the District Health Department and the local medical profession have coöperated along this line, improvement in the present arrangement would seem to be indicated. Consideration might well be given to the development of more effective participation by private practitioners.

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Government Endorses Group Hospitalization In a statement to the press on September 14, 1941, Federal Security Administrator Paul V. McNutt endorsed the participation by employers and employees in group payment plans for hospital service. It was stated that the Administrator's endorsement was in line with recommendations made by the Health and Medical Committee headed by Dr. Irvin Abell and including the Surgeons General of the Public Health Service, the Army and the Navy. Mr. McNutt said:

> "The American Hospital Association is to be congratulated on the development of Blue Cross plans, which enable 7,500,000 Americans to place hospital care in the family budget along with other necessities. Your Association has not only encouraged professional and adminstrative standards of service which have made American hospitals the best in the world; it has also developed a method by which these services are made available to the American people.
>
> "The uncertainty of continued good health, and the importance of hospital care in the treatment of illness make it desirable for employed workers and their dependents to place hospital care in the family budget along with other necessities. Without such planning, many employed persons are now compelled to forego necessary hospital care, or to obtain free service in tax-supported institutions.
>
> "One special feature of these Blue Cross plans which makes them particularly desirable for workers moving

from one 'defense community' to another is the arrangement for the transfer of paid-up subscribers from one area to another. All the flexibility possible should be encouraged so that the maximum protection to defense workers may be secured."

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Drugs and the Public

The August issue of *Hygeia*, the Health Magazine of the American Medical Association, contains an article entitled, "Drugs and the Public," by Dr. George B. Roth, Professor of Pharmacology at the George Washington University School of Medicine, and an Associate Member of the Medical Society of the District of Columbia. Dr. Roth describes drugs used today in lay terms as follows: "those prescribed by the physician; those suggested by the physician such as the household remedies; and those which are used on the initiative of a layman, either at the suggestion of another layman who is often a drug clerk, or as the result of the blandishments of patent medicine promoters." Enlarging upon these three categories, Dr. Roth emphasizes the dangers of self-medication.

"The evils incident to the use of drugs by the layman reside not only in the drug itself, but in his use of the drug: the evil of self-diagnosis."

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Soldier's Heart

Directing attention to the effect of the stress and strain of military service on the heart of the soldier, Dr. Louis L. Bishop, Jr., of New York City, comments in the October 1 issue of the *New York State Journal of Medicine* that "the solution to the problem of 'soldier's heart' lies in prevention."

> "If we hope to eliminate heart disease in the soldier and take care of his heart, the circulation of a boy in the draft must not be superficially examined. Therefore, the first requisite for the prevention of potential soldier's heart is to have experienced medical examiners, coupled with psychiatric study. . . .
>
> "What is soldier's heart? 'Called so far in this war "neurocirculatory asthenia." the name is purely descriptive of the major symptoms that are referable to the nervous and circulatory system and associated with an increased susceptibility to fatigue.'
>
> "Soldier's heart has had numerous names from the time of the Civil War to any new label we may bestow on it in 1941. The most interesting term may contain a kernel of truth as to the nature of the disease—'D.A.H.,' or 'disordered heart action,' popularly interpreted as 'desperate affection for home.' Apropos is a conversation I had with a trainee visiting New York City at Easter. I asked him what the soldiers at his camp talk about. He replied, 'food and girls.' There you have it—longing for the usual way of life—home! It is inherent in the normal, as well as the neurotic, recruit. . . .
>
> "Call it what you will, cardiac neurosis, effort syndrome, neurocirculatory asthenia, irritable heart, or anxiety neurosis, it is apparent that 'soldier's heart' is a real disease, with far-reaching effects and as worthy of prevention as cancer!"

Dr. Bishop concludes with the statement that "soldier's heart" can be prevented to a large extent by weeding out the unfit and building up the morale of the boys in camp.

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California Physicians' Service

It has been interesting to note the progress being made by health service plans. A very few have shown promise of success. Some are still paper organizations; others are in operation but their growth has been slow.

Dr. A. E. Larsen, of San Francisco, writing in the September issue of *California and Western Medicine*, makes some enlightening statements in regard to the California Physicians' Service. By way of an introduction, he says:

> "The job of making health service plans work has just begun. A great deal is known about hospitalization and it may be said that this phase is on a fairly accurate actuarial basis. This is probably responsible for the rapid growth of the Blue Cross hospital plan from 32,000 in 1932 to 6,300,000 in 1941. To show the speed with which the idea is taking hold, almost a third of the six million subscribers to hospital plans joined in 1940.

"The medical phase of health service plans is a different matter. Until ten years ago the incidence of sickness was virtually unknown. Since then most of our information has come from surveys of one type or another. Most of these have been static in nature and have not shown sickness under conditions where it may be followed from day to day, week to week, month to month, and on. Furthermore, there are practically no usable statistics under health insurance systems adaptable to the American system and quality of medical care. Until such information is available, all designers of health service plans are following a path that offers few markers."

That the California Physicians' Service is confronted with serious problems is attested to by Dr. Larsen who reports:

"The most important, and perhaps the most alarming, fact that is showing up in studies being conducted in the California Physicians' Service office, is the high incidence of illness. This has been consistently over 17 per cent in the past seven months. A high incidence was expected in the winter months, but it should begin to taper off in February. Instead the high figure for December, an epidemic month, has maintained itself into April. The epidemic is certainly long over, so it cannot be blamed. It is hardly conceivable that one out of every five of the beneficiary members required medical care consistently over a period of seven months. Yet these are the facts as recorded on the California Physicians' Service statistical machines. This extraordinary use of service is naturally burdensome to the whole plan. If the incidence of use of service could remain consistently around 10 or 12 per cent rather than at the present 17 to 19 per cent, California Physicians' Service would very quickly show a very different picture.

"The record shows also that a major proportion of California Physicians' Service patients are being treated for minor chronic diseases. That 17 cents of each California Physicians' Service dollar is spent for X-ray and laboratory indicates that physicians are doing very thorough diagnostic work, which is essential to the practice of good medicine. However, this type of diagnostic work is apparently revealing pathology that necessitates continued treatment in a large number of cases. This seems to be borne out by figures showing that the same patients are receiving care month after month.

"There are an unhealthy number of cases (from the standpoint of both California Physicians' Service and the health of the community) that continue on indefinitely. It may be that patients are demanding too much service for too many minor things, or it may be that too many doctors are finding too many things wrong with too many people. These are factors that cannot and should not be subject to administrative action since this is a true expression of the needs of the patient as determined by his own physician.

"This suggests a fundamental difference in approach to medical care under health service planning than we have known heretofore. It is well recognized under plans operated by the Government where budgets have to be met that, in order to stretch the budget, benefits are reduced. This reasoning could also be applied to closed systems and contract medicine, where the element of profit is taken into account. It is conceivable that under these plans benefits can be arbitrarily reduced by administrative action, since by so doing profits can be maintained without much difficulty."

It is difficult to follow Dr. Larsen's reasoning. While it is undoubtedly true that where plans are operated for profit, benefits may be reduced, it is equally true that where excessive demands by subscribers to non-profit plans are permitted, physicians will receive less and less compensation for their services. If, as he says, "patients are demanding too much service for too many minor things, or . . . too many doctors are finding too many things wrong with too many people," there would seem to be no escape from increasing the subscribers' fees or taking administrative action to correct abuses which may exist.

THE DAVIDSON LECTURE

Established in 1929 in commemoration of the outstanding service rendered the Washington medical profession by Dr. Edward Young Davidson, the Davidson Lecture has attracted wide attention. In 1936, the then Executive Committee adopted a resolution to put the selection of the lecturer on a competitive basis. The Davidson Lecture, it was believed, should mean more than the opportunity of hearing a paper prepared by an outstanding physician.

It was hoped that it would provide a stimulus to high performance among the local profession. It was accordingly agreed that "the selection of the Davidson Lecturer shall be on the basis of competition, the winning essay to be selected by a subcommittee consisting of five members of the Executive Board appointed by the Chairman. . ." The second Wednesday in October of odd numbered years was fixed as a permanent date for these lectures.

The Subcommittee of the Executive Board assigned to make the selection this year were: Dr. Thomas E. Neill, *Chairman;* Drs. William J. Mallory, Henry C. Macatee, Henry R. Schreiber and Raymond T. Holden. As a result of their deliberations, Dr. Robert J. Coffey's paper, entitled "Recent Advances in Diseases of the Pancreas," was chosen. However, the Subcommittee advised the Executive Board that a number of the essays submitted were most excellent. It was therefore no easy task for the Subcommittee to decide on the comparative merits of the essays received.

It is a distinction for a physician to receive the Davidson Lecture Award, and the Subcommittee feels that Dr. Coffey is most worthy of it.

Dr. Robert J. Coffey was born in Elmira, New York, November 14, 1908. Completing his undergraduate study at St. Bonaventures College in 1928, he enrolled at Georgetown University, receiving his degree in medicine in 1932. He returned to Elmira, N. Y., to serve as intern and surgical resident at St. Joseph's Hospital, and then began postgraduate study by entering the Mayo Clinic in 1934 as a Fellow in Medicine. Upon accepting his thesis on "Multiple Adenomatosis and the Polyposis of Chronic Ulcerative Colitis," the University of Minnesota conferred upon him the degree of Master of Science in Medicine. He continued his study at the Mayo Clinic as a Fellow in Surgery, and was appointed first assistant in general surgery. In 1938 he received the degree of Doctor of Philosophy in Surgery from the University of Minnesota, after submitting a thesis on "The Role of the Pancreas in the Digestion and Absorption of Food."

Dr. Coffey began private practice in Washington as a general surgeon in 1938. From 1938 to 1940 he served on the staff of Georgetown University School of Medicine as Professor of Experimental Surgery as well as Instructor in Clinical Surgery, which position he still retains. At present he is associate in general surgery at Providence and Gallinger Hospitals.

ROBERT J. COFFEY, M.D., M.S., PH.D.
The Davidson Lecturer, 1941

Elected to Active Membership in the Medical Society of the District of Columbia in 1939, Dr. Coffey is one of the Society's younger members. He is a diplomate of the American Board of Surgery, an Associate Member of the American College of Surgeons, and a founder member of the recently organized Surgical Travel Club. He is also a member of the Georgetown Clinical Society, the Alumni Association of the Mayo Foundation, and Sigma Xi. He has contributed numerous articles in the field of general surgery, particularly on diseases of the gastrointestinal tract, to medical journals.

13th ANNUAL SCIENTIFIC ASSEMBLY

Registration at the 13th ANNUAL SCIENTIFIC ASSEMBLY reached a new high, 1,838 being in attendance. Of this number, 986 were physicians from Washington and nearby states. The Society was represented by more than half its membership. As in past years, not all those who attended registered, although every effort was made to have them do so.

The ASSEMBLY this year was the most ambitious yet undertaken by the Society. Communications which have been received and comments which have been made to those responsible for the ASSEMBLY have been most enthusiastic.

The Medical Society luncheon held on Tuesday, September 30, which was addressed by Colonel Leonard G. Rowntree, Chief of the Medical Division of the Selective Service System, was well attended, nearly 400 being on hand. Colonel Rowntree gave an excellent address on "The Physician in Selective Service."

There was high praise for the scientific program which this year was devoted to CURRENT PROBLEMS IN GENERAL MEDICINE. Nearly all of the lectures were well attended and the Grand Ballroom at the Mayflower was comfortably filled from morning until late in the afternoon.

One of the outstanding features of the program was the session devoted to "Medicine in National Defense." The uniform excellence of the papers was not surprising in view of the fact that the speakers were high officials in the military services and authorities in their respective fields.

The luncheon given by the George Washington University Medical Society on Wednesday, October 1, was addressed by Dr. William J. Mallory, substituting for Earl Godwin, Washington commentator, who was called out of the city. The speaker at the Georgetown University Medical Alumni Association luncheon on Thursday, October 2, was Edward A. Tamm, Assistant Director, Federal Bureau of Investigation, U. S. Department of Justice. The luncheon given by alumni of the Medical College of Virginia on the same day was addressed by Dr. Claude A. Coleman, Professor of Neurosurgery at the Medical College of Virginia.

It is doubtful if any state medical society in the country can boast of finer exhibits than those shown in the Scientific and Public Health Exhibits; in fact, many comments to this effect were heard. The exhibits completely filled the large East and Pan American Rooms and the 17th Street Parlor, and were without exception of the highest order. First prize for the best scientific exhibit was awarded Dr. A. J. Connolly for his display entitled, "Graphic Hematology," and second prize to Dr. Garnet W. Ault, whose subject was "Carcinoma of the Rectum." First prize in the Public Health Exhibit was awarded Dr. William J. Mallory, Dr. John A. Reed and Miss Evelyn Anderson of the Diabetic Clinic of Doctors' Hospital for the exhibit on "Diabetes." Second prize in this group went to the U. S. Public Health Service for an exhibit on "Facilities for Care and Treatment of Mental Patients 1941, and Institutional Facilities for the Mentally Deficient."

A new feature of the ASSEMBLY was the Military Exhibit. This exhibit was made possible through the coöperation of the Medical Departments of the Army, Navy and the Selective Service System. The equipment on display was viewed not only by those who registered but by the general public, to whom this exhibit and the Public Health Exhibit were open on the evening of Wednesday, October 1. It was unusual in every respect and it is doubtful whether such a displây will again be possible. If it had not been for the fact that the equipment shown was obtainable in Washington, the exhibit could not have been presented. At any rate, it attracted wide attention and deserved the many fine things said about it.

As was to be expected, the Grand Ballroom was filled to capacity for the public meeting held on the evening of Wednesday, October 1. The

Photographs by Dr. Leslie H. French

Speakers on "Medicine in National Defense"
at the 13th Annual Scientific Assembly

(*Top*) Lt. Comdr. L. R. Newhouser
(*Center*) Hon. Fiorello H. LaGuardia
(*Bottom*) Rear Admiral Ross T. McIntire

(*Top*) Dr. Warren F. Draper
(*Center*) Col. Leonard G. Rowntree
(*Bottom*) Lt. Col. A. Clagett Gray

Honorable Fiorello H. LaGuardia, U. S. Director of Civilian Defense, spoke on "Health and Civilian Defense." His colorful personality captivated the audience which enthusiastically applauded at various points in his address. Guests who were introduced were Rear Admiral Ross T. McIntire, Surgeon General of the U. S. Navy, Colonel Leonard G. Rowntree, Chief of the Medical Division of the Selective Service System, and Lieut. Col. Lemuel L. Bolles, Executive Officer of the District Council of Defense. Appearing on the brief musical program preceding Mr. LaGuardia's address were Rose Pollio-Jarman and a mixed quartet composed of Mrs. Herman Hertzberg, Mrs. Lester W. Harris, Dr. Robert H. Harmon and Dr. Michael Buckley, who substituted for the Doctors' Male Quartet.

A dinner was given by the Women's Medical Society in the Solarium of Doctors' Hospital on Wednesday evening, October 1, which, according to reports, was well attended.

The Annual Banquet on Thursday evening closed the ASSEMBLY. It was a colorful event and the entertainment was of the highest order. All agreed that the dinner was a fitting climax to a most successful meeting.

WOMAN'S AUXILIARY NOTES

The Woman's Auxiliary held its first meeting of the year in the library of the Medical Society's building on October 8. Presiding was the new President, Mrs. Caryl Burbank.

Dr. Henry R. Schreiber, President of the Medical Society of the District of Columbia, gave an interesting talk. He stated that he would not be presumptive enough to outline a program for the Auxiliary but hoped it would be ready throughout the year to assist the Society with whatever problems might arise. He said the Society would have more activities than heretofore due to additional duties in connection with the National Defense Program.

The Membership Committee, under the capable guidance of Mrs. Ernest E. Hadley, reported that sixteen new members had been added so far this year. Further efforts are to be made in this connection, and wives of all members of the Medical Society who are not affiliated with the Auxiliary are cordially invited to become members.

Mrs. William J. B. Orr, who attended the annual meeting of the American Medical Association in Cleveland in June, reported that the District Auxiliary's exhibit depicting its growth and activities since its inception was enthusiastically received. At a recent meeting the Auxiliary gave a rising vote of thanks to Mrs. John A. Reed for preparing the exhibit.

MRS. E. LEONARD GOODMAN
Publicity Chairman

MEETINGS

Wednesday, November 5

Business Meeting

Friday, November 7

Joint meeting with the *Baltimore City Medical Society* at Baltimore. The District Medical Society has arranged the following program:

"The Treatment of Thrombophlebitis." HUGH H. HUSSEY, M.D., F.A.C.P., Instructor in Clinical Medicine, Georgetown University School of Medicine, AND J. ROSS VEAL, M.D., F.A.C.S., Adjunct Clinical Professor of Surgery, Georgetown University School of Medicine and George Washington University School of Medicine

"An Epidemic of Bronchopneumonia of Unknown Etiology." WORTH B. DANIELS, M.D., Clinical Professor of Medicine, Georgetown University School of Medicine

"Lesions of the Vulva." C. K. FRASER, M.D., AND JOHN PARKS, M.D., Adjunct Professor of Clinical Obstetrics and Gynecology, Georgetown University School of Medicine

Wednesday, November 12

The *Fracture Committee of the American College of Surgeons* will present the following program:

"Treatment of Fractures in a Military Hospital." NORMAN T. KIRK, M.D., F.A.C.S., Colonel, Medical Corps, U. S. A., now stationed at Walter Reed Hospital

"The Problem of First Aid in Fractures and Dangers of Unrecognized Fractures," illustrated with movies and lantern slides. A. WILLIAM REGGIO, M.D., F.A.C.S., Boston

Wednesday, November 19

No meeting.

Wednesday, November 26

The *Washington Heart Association* will sponsor the following program:

"The Varieties of Cardiac Pain, Their Clinical and Pathologic Significance." HERMAN L. BLUMGART, M.D., Associate Professor of Medicine, Harvard Medical School, Boston

MEDICAL PREPAREDNESS SECTION

To those who do not as yet appreciate the need for action, I should like to quote from a similar official bulletin issued in England in 1938 just prior to the beginning of hostilities, which describes measures for safeguarding the civilian population:

> *"The need for [these measures] is not related to any belief that war is imminent. It arises from the fact that the risk of attack from the air, however remote it may be, is a risk that cannot be ignored, and because preparations to minimize the consequences of attack from the air cannot be improvised on the spur of the moment but must be made, if they are to be effective, in time of peace."*

Whether or not we regard danger to the lives and the property of our people as imminent, I would urge that immediate steps be taken to carry out these recommendations of the Office of Civilian Defense in every State along our seaboards and in industrial areas in the interior.—F. H. LaGuardia, U. S. Director Civilian Defense.

EMERGENCY MEDICAL SERVICE FOR CIVILIAN DEFENSE

Medical societies and hospitals throughout the country have been called upon by the U. S. Director of Civilian Defense to proceed without delay with the organization of the Emergency Medical Service. The Medical Division of the Office of Civilian Defense has issued Bulletin No. 1 in which there appears the following description of the Service:

I. Local Chief of Emergency Medical Service

An Emergency Medical Service should be organized as a section of the local defense organization in each area under a director responsible to the local Director of Civilian Defense. It is recommended that the local Chief of Emergency Medical Service be a physician of broad experience and administrative capacity, such as a health officer or an experienced hospital administrator. It should be his first duty to make an inventory of the community's medical resources and facilities, and to prepare local plans, develop an organization, and provide for the training of personnel to carry out the functions of the Emergency Medical Service outlined below.

II. Local Medical Advisory Council on Civilian Defense

The local Chief of Emergency Medical Service should be Chairman of a Medical Advisory Council. This Council might well include the local health officer, an experienced hospital administrator, a physician recommended by the local medical society because of his technical experience and executive ability, a registered nurse, and a representative of the American National Red Cross and other voluntary agencies.

III. Emergency Medical Field Units

In States on both seaboards and in vulnerable industrial areas in the interior, general hospitals, both voluntary and governmental, including Veterans' Administration Facilities and the Marine Hospitals of the United States Public Health Service, should organize Emergency Medical Field Units and assemble basic equipment. An Emergency Medical Field Unit should consist of two or more squads, and a physician should be appointed to command the entire unit. Squad leaders, in turn, should be designated. The size of the Emergency Field Unit should be in proportion to the bed capacity of the parent hospital. All members of Field Units should be instructed in first aid,* including care of burns, prevention of shock, control of hemorrhage, emergency treatment of fractures and wounds, and in the technic of decontamination.

A. PERSONNEL

1. *Small Squads:* In hospitals of less than 200 beds, it is recommended that the Emergency Field Unit consist of two squads, one for each 12-hour shift of the day. Each squad should be composed of two physicians, two or more nurses, and two or more orderlies or nurses' aides, and be capable of functioning, if necessary, as two separate teams. At least one Unit of this size is advisable for a population up to 25,000.

2. *Large Squads:* In hospitals of more than 200 beds the Emergency Field Unit should consist of two squads of four doctors, four or more nurses, and four or more orderlies or nurses' aides, one of the physicians in each squad to act as squad leader. Each of the squads should be on first call during a 12-hour period of the day. The personnel and equipment of a squad should be divisible into four teams, capable of functioning if necessary at separate sites of disaster. At least one Unit of this size or two Units with small squads are advisable for populations up to 50,000.

3. In hospitals of more than 350 beds the Emergency Field Unit should consist of four or more large squads, each headed by a squad leader and capable of functioning, if necessary, as multiple teams. In these large hospitals at least two squads should be on call during each 12-hour period of the day, alternating on first call on alternate days. An Emergency Field Unit of four large squads, or two Units of two large squads each, are advisable for a population of 100,000.

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*Advanced First Aid course prepared by the Office of Civilian Defense in collaboration with the American National Red Cross.

In large cities, the desirable minimum would be four large squads (16 physicians and assistants) per 100,000.

4. It will be advisable to organize physicians and nurses engaged in private practice in the area into reserve Emergency Field Units related to hospitals. In areas with small hospitals whose resident staffs cannot be depleted, the primary Emergency Unit of a hospital may be made up in whole or in part of practitioners from the community.

B. TRANSPORTATION

A hospital ambulance, station wagon, small truck, or passenger vehicle will be adequate to transport the personnel of a squad and their equipment to the site designated by the local Director of Civilian Defense for the establishment of a Casualty Station. On return trips to the hospital with casualties such vehicle will be available for transportation of additional squads and equipment if required. Hospitals which do not maintain an ambulance service will find it necessary to provide for transportation, utilizing private or municipal ambulance services, small vehicles of the police, fire, or other municipal departments, station wagons, or passenger cars. Special racks (see separate memorandum of the Medical Division of the Office of Civilian Defense) can be installed in private ambulances and in station wagons and small trucks so that they may be utilized in an emergency for the transportation of four or more stretcher patients at a time.

Private vehicles recruited for ambulance purposes by the American National Red Cross or other agency should be assigned to a hospital or to a designated parking center under the control of a transport officer.

C. MEDICAL AND SURGICAL EQUIPMENT

The medical and surgical equipment for a squad should consist of a working supply for each physician's team and a reserve supply of sterile dressings and equipment in drums or packs from which the working supplies of the teams may be replenished. The working supply of each team is best carried in a portable bag, box, or haversack provided with suitable compartments. A list suggesting minimum equipment will be available in a separate memorandum (Bulletin No. 2).

The provision of working supplies in a separate container for each physician will permit the squad of a Casualty Station to split off teams of one physician and assistants who can be dispatched to set up subsidiary First Aid Posts at other sites.

D. CASUALTY STATIONS AND FIRST AID POSTS

Upon arrival at the site of a disaster, the squads of the Emergency Medical Units which have responded to the appropriate alarm will set up Casualty Stations at the sites designated by the local Director of Civilian Defense. The location of a Casualty Station should provide safety, shelter, and accessibility. Stretchers, cots, and blankets will have arrived in a truck carrying the Rescue Squad of the police, fire, or other municipal department. Until released by authority of the local Director of Civilian Defense, the physicians and nurses of the Emergency Medical Unit should remain at their station, to which the injured will be directed or transported on stretchers by the Rescue Squads and volunteers enlisted by them for this purpose. The work of the Casualty Station is to be limited to emergency first aid procedures—the relief of pain, prevention of shock, control of hemorrhage, care of burns, application of simple splints and of surgical dressings and, not least, the preservation of morale by the establishment of confidence. The seriously injured will be evacuated as rapidly as possible by ambulance or other vehicle to a hospital. Those with minor injuries will go to their homes or to temporary shelters.

If necessary, the squad leader in charge of a Casualty Station may split off one or more teams of one physician and assistants, dispatching them to set up subsidiary First Aid Posts at other sites.

It will be advisable for the local Chief of Emergency Medical Service to prepare a spot map of the area to indicate all out-patient clinics, health centers and their substations, and all police and fire stations or other sites which could serve in an emergency as Casualty Stations or First Aid Posts. He should also maintain an inventory of available transportation.

E. DECONTAMINATION STATIONS

A subsequent bulletin will deal with the structural requirements of Decontamination Stations and with details concerning the care of casualties from chemical agents.

F. RESCUE SQUADS AND STRETCHER TEAMS*

Casualties will be conducted on foot or transported on stretchers to the nearest Casualty Station or First Aid Post by Rescue Squads of the police, fire, or other municipal department. These Rescue Squads may be assisted by Air Raid Wardens and by volunteers enlisted at the time. Police and fire reserves should be well trained in first aid and stretcher bearing, and organized into Rescue Squads of four or eight, headed by a squad leader. By the addition of volunteers, a Rescue Squad is capable of being multiplied into as many stretcher teams as there are members, each trained member becoming the leader of a team.

Provision should be made for the storage of standard stretchers, collapsible cots, and blankets in designated locations, such as police and fire stations, hospitals, health centers, or other suitable place. The number of standard stretchers stored in each police and fire station should be equal to the number of members of the station's Rescue Squads.

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* Rescue Squads consist of auxiliaries of the police or fire department, who are trained and equipped for clearance and demolition work. Although their function is to extricate the injured, they have also had training in first aid and in stretcher bearing so that each member can serve as the leader of a Stretcher Team. Their first aid services at the time of the disaster should be restricted solely to most urgent needs such as the arrest of profuse bleeding or the application of a leg splint. Their primary object should be to remove the injured as soon as possible from the scene of danger with the aid of Volunteer Stretcher Teams and get them to a First Aid Post or Casualty Station.

It will be advisable to have three times as many collapsible cots as stretchers and two blankets for every stretcher and cot. This equipment should be transported by the truck carrying the Rescue Squad to the site of the Casualty Station or First Aid Post.

G. RECORDS

Identification tags should be affixed to the injured by the Rescue Squad or else immediately upon arrival at the Casualty Station or First Aid Post. A duplicate record should be kept in a book which should be standard equipment of each medical emergency team. The record should include the name or other identification, address, person to be notified, diagnosis, first aid administered, morphine if given, and disposition. A form approved by the Medical Division of the Office of Civilian Defense will be found in a supplementary memorandum on equipment. One nurse or nurses' aide should be assigned the responsibility for these records. The forehead of tourniquet cases and of patients urgently requiring priority attention should be marked *TK* or *U*, respectively, with a red crayon skin pencil, or lipstick.

H. DRILLS

It is recommended that drills be called at each hospital once a month by the Chief of the professional staff. A record of each drill should be kept by him, which will show the time required for complete mobilization of a squad at the designated point of departure and the condition of equipment and transportation.

It is also recommended that field drills be called unexpectedly by the local Director of Civilian Defense at least every 3 months for each hospital. Each field drill might appropriately include one or more Rescue Squads of the police, fire, or other municipal department, who will assist the Emergency Medical Squads in setting up Casualty Stations at designated sites. The official in command at the drills should inspect the clothing, equipment, and transportation of all participating units and render a report to the Chief of Emergency Medical Service and to the local Director of Civilian Defense upon the promptness and efficiency of each unit. The larger field drills might include the Canteen and other Emergency Relief Services of the Welfare Department or of the local chapter of the American Red Cross or other local agency.

IV. Base and Evacuation or Clearance Hospitals

In order to prepare for the release of hospital beds within the area for large numbers of casualties, the Chief of Emergency Medical Service should make an inventory of hospitals, convalescent homes, and other institutions within a radius of 50 or more miles, to which maternity services, children's wards, certain categories of the hospitalized sick, and convalescents could be transported. Provision should also be made for the assembly and storage of an adequate supply of hospital cots, mattresses, blankets, and other equipment which may be required to provide for emergency increase in bed capacity of voluntary and governmental hospitals. In the event of actual destruction of hospitals, it may become necessary to consider evacuating casualties to Base Hospitals and transforming hospitals near the scene into Evacuation or Casualty Clearance Hospitals.

Upon receiving the first emergency call, the hospital should order all members of its visiting staff by telephone or police radio call to report to the hospital and stand by for the care of the injured received from the Casualty Stations and First Aid Posts.

V. Augmentation of Nursing Services

In the face of the need for rapid expansion of nursing services for civilian defense, the number of available nurses is being depleted because of the requirements of the military forces and the public health and industrial hygiene services. An attempt is being made to compensate for this deficiency by the training of subsidiary hospital workers through the NYA, WPA, and other programs. The Office of Civilian Defense in collaboration with the American National Red Cross has revised the instruction curriculum for Volunteer Nurses' Aides, so as to provide for a period of intensive practical instruction in hospitals under the direction of a special instructor in charge of the training and use of Volunteer Nurses' Aides. Upon completion of this practical training, Volunteer Nurses' Aides will become eligible to assist nurses in wards and out-patient clinics of hospitals, or in visiting nurse, public health, industrial hygiene, and school health services. Volunteer Nurses' Aides are intended to supplement the work of the nurse, so that she may be able to serve a greater number of patients. It is recommended that the local Chief of Emergency Medical Service in collaboration with hospital executives and principals of schools of nursing reorganize and intensify the training and the use of Volunteer Nurses' Aides in appropriate hospitals in accordance with the new schedule of the Office of Civilian Defense and the American National Red Cross.

VI. First Aid

First aid instruction should be provided for as large a part of the general population as possible. The local Chief of Emergency Medical Service should, in collaboration with the local chapter of the American National Red Cross, provide training in first aid for at least 5 per cent of the personnel of all municipal departments and large business and industrial establishments. Upon completion of training, this 5 per cent should constitute the first aid corps of their municipal department, business, or factory group. The leaders of these corps should be encouraged to take the Instructor's Course of the American National Red Cross so that, when qualified, their services might be utilized for the extension of first aid instruction to all employees and to the general population of the community.

The First Aid Course for Civilian Defense prepared by the American National Red Cross in collaboration with the Office of Civilian Defense is recommended for first aid training.

Instructors qualified by the Red Cross may give this training under the direction of the local chapter of the American Red Cross, the local health department, or any other voluntary or governmental agency.

An intensive course of practical training (five 2-hour lessons) has been prepared by the Medical Division of the Office of Civilian Defense and the American National Red Cross as supplementary instruction for members of Emergency Medical Field Units and for nursing auxiliaries and members of other Civilian Defense Units (police officers, firemen, and volunteer auxiliaries) who have had previous instruction in first aid. It is designed as a refresher course for the purpose of reviewing and practicing those first aid procedures which are most important in Civilian Defense.

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The following physicians have been recommended by the Committee on Military Affairs for appointment to Selective Service Boards in the District of Columbia:

Examining Physicians:

District No. 2	Hugh H. Hussey
District No. 3	Emil J. C. Hildenbrand
District No. 10	William M. Ballinger
District No. 11	Gilbert Ottenberg
District No. 15	Abe Blajwas
District No. 16	Richard H. Spire
	Ralph J. Carbo
District No. 18	Lester W. Harris
District No. 21	Henry L. Peckham, Jr.
	Leon Seley
	Joseph B. Sheffery
	Leo W. Dufault
District No. 22	Samuel Zola
	Brayton O. Myers
	Lendall C. Gay
	Homer K. Butler
District No. 24	James W. Braden
	Maurice R. Edmonston
	Roger Williams

Medical Advisory Board (A)

Orthopedist	William J. Tobin
Roentgenologist	Arthur C. Christie
Otolaryngologist	Edward M. O'Brien
	John H. Gilligan

IN DEFENSE OF VOLUNTARY HOSPITALS

O. K. Fike

Director, Doctors' Hospital

I read with a great deal of interest, but not too much concern, Dr. Myles Atkinson's voluminous and scorching indictment of the voluntary hospitals of America. In fact, I read the article several times hoping to find some reason or motive that would cause a member of the medical profession to become so antagonistic and bitter in his attitude toward American hospitals as a whole.

It is interesting to note that Dr. Atkinson is English born, took his degree from the Royal College of Physicians in 1917 and in 1920 joined the faculty of the University of London Medical School. Not until 1938 did he move his private practice to the United States and is today listed as a Visiting Surgeon at the New York Hospital.

It is impossible for me to believe that any man residing in the United States only three years could secure enough first-hand information of the great hospitals of this country to justifiably criticize all of them as he did in the article appearing in the August issue of *The Atlantic.*

Apparently Dr. Atkinson thinks he has been badly treated in his hospital connections and is, therefore, condemning all hospitals because of the policies of a few. Knowing and understanding the purposes, the ideals, the principles, and likewise the problems of the voluntary hospitals of the United States as I do, I know that the majority of hospitals are not guilty of the long list of indictments so boldly recited.

The indictments as he expands them are briefly this:

1. That the governing bodies and administrative staffs have taken unto themselves an authority that is not justified and has subordinated the patient and the doctor to the financial needs of the hospital—"that all energies should be devoted to the task of keeping the machine running. Patients, doctors, and nurses are fed into its maw to that end, like pigs into a sausage factory. What comes out at the other end sometimes seems to be of less moment than the numbers which go in and the amount they

can contribute. The administration rules the roost. The patient, instead of being the first consideration, tends to take second place, with doctors and nurses as also-rans."

2. That the voluntary hospitals between the end of the World War and the Great Depression expanded on such an extravagant scale that they now must exploit patients and doctors to keep the front door partially open. He says: "They have needed money so badly that they have been prepared to adopt almost any means to get it, and a certain shadiness has, quite unconsciously, crept into the methods of their management. Patients and doctors alike are being used to maintain as a going concern, institutions the original intention of which was to supply their needs."

3. That large medical centers—"by which I mean those huge aggregates of buildings housing half a dozen amalgamated institutions" (viz., his) are most impressive, but their economy and efficiency has proven to be a delusion.

4. That the lavishness of our hospitals hides an empty purse and a continual struggle against adversity.

5. That the medical efficiency also suffers in these large medical centers. He says "from the medical standpoint also, efficiency suffers in these big medical centers. Individual departments get so large that they begin to approach autonomy, to become more and more self-contained. For one reason, the staffs are so big that half of them do not know the other half. For another, the distances are too great; to get from one department to another in these vast buildings requires time and a passion for geography. Not only do the doctors get lost but so do the patients."

6. That patients are exploited no end by even being required to pay part or all of their hospital expenses depending on their financial resources.

7. That doctors are exploited by being required to render unlimited hours of free medical service to charity or part-pay patients who, in some instances, pay a small clinic charge. Quoting, "Though the patient is sometimes made to pay more than seems just, his exploitation is on a minute scale compared with that of the doctor. Yet everybody tolerates the evil, and, so long as no protest is made, naturally managing boards are not going to do anything which would reduce their already precarious income. It has always been the privilege of the medical profession, part of its code, to care for the sick poor without question of payment. But what is sauce for the goose is sauce for the gander. If the hospitals find times difficult, so do the doctors. If the hospitals demand contributions from patients for their services, a proportion of those contributions belongs to the doctors for theirs."

8. That private patients can for a price well within the range of hospital charges secure better accommodations, better food, and better service in general at a first class hotel than he can in a hospital.

9. That hospitals through their out-patient clinics are demanding that their staff specialists render free consultation to patients of general practitioners who are receiving a fee for the treatment of the patient, and that hospitals through their flat rate obstetrical service (where the resident staff performs the delivery) are depriving obstetricians and general practitioners of fee-paying patients.

10. That the pharmacist is also exploited by hospitals by virtue of the fact that drug manufacturers give special rates to hospitals which, in some instances, are below prices paid by retail pharmacists.

I am reasonably sure that all of us will concede that some hospitals may be guilty of some of the counts in this indictment; but I am likewise just as sure that no member of the medical profession can justifiably say that all hospitals are guilty of all of the charges in the indictment.

It has been my privilege over a period of years to know intimately the administrators and trustees of many large hospitals, hospitals under the control of the Catholic church, the Protestant churches, and voluntary hospitals built by the philanthropically-minded public, and it is rare to find anyone connected with a hospital who does not give first consideration to the patient at all times.

I cannot subscribe to the statement that the patient and the medical profession are subordinated to the whims of the governing board, the administrative staffs, and the financial needs of the American hospitals.

Dr. Atkinson says "poverty-stricken European hospitals were at least spared this extra burden, for they never had a chance to be extravagant. They were faced with bankruptcy from the start." Apparently, he prefers the poverty-stricken hospitals of Europe to the modern, up-to-date hospitals of America.

It is true that some hospitals overexpanded during the boom days of 1920–29 but this is no indication that their facilities are not needed today and that ways and means cannot be developed to adequately support them without exploiting our patients and doctors, as has been charged. History proves that the financial position of hospitals today is equally as good if not better than prior to the World War.

Some of our medical centers may be too big for 1941 economy and efficiency but that does not prove that these institutions cannot be used to advantage in large population centers, and that their medical efficiency need suffer because of the size of the institution. It is unfortunate to find a member of the medical profession whose antagonism has grown to the point that he will accuse the hospitals of America of using shady methods in their management.

Dr. Atkinson charges that patients are exploited because they are asked to pay a part of their hospital expense. I could not find in his article where he presented a logical solution for providing adequate medical care for the indigent and part-pay patient, and so it appears to me as though he had stated a problem and left the solution thereof to abler minds than his.

Naturally, I know hundreds of doctors and have yet to find one who had any regret for the hours spent in free clinics or for service to charity or part-pay patients. I am inclined to believe that Dr. Atkinson stated his entire objection to our present American system when he made this statement: "Though the patient is sometimes made to pay more than seems just his exploitation is on a minute scale compared with that of the doctor. If the hospital demands contributions from patients for their service a portion of those contributions belongs to the doctors for theirs." I am afraid that Dr. Atkinson is discussing medical economics and not primarily the shady methods of American hospitals.

I have spent a great deal of time studying hospital rates in comparison with hotel rates and defy anyone to secure the same adequate service in America's best hotel at anywhere near the rate for the same service received in an approved, modern hospital.

If all the hospitals of America were guilty of all of the charges preferred against them by Dr. Atkinson, it appears rather ridiculous for a member of the medical profession, particularly one who has only resided in the United States three years, to submit the case to an already uninformed and antagonistic public that is helpless to change the condition. If the charges are true (and I do not believe they are) it is the responsibility and the duty of the medical profession, through the American Medical Association, and the hospitals, through the American Hospital Association, to get around a common conference table and discuss the problem and the solution as intelligent human beings.

Problems within our ranks can never be solved by newspaper headlines, indictments in monthly periodicals and by radio addresses. The time has arrived for friendly, coöperative, intelligent thinking and planning between the medical profession, the nursing profession, hospital administrators and trustees. To this end let us work.

MEMBERSHIP

The following applicants were duly elected to membership at the business session, October 8, 1941:

Active Members

William E. Bageant, 4609 Georgia Avenue, N. W.
Richmond C. A. Brooks, 1150 Connecticut Avenue, N. W.
Jacob Ceppos, 4100 Fourteenth Street, N. W.
Jerome B. Harrell, 1835 Eye Street, N. W.
Charles R. Hughes, 900 Seventeenth Street, N. W.
William H. Spicer, 703 C Street, S. W.

Associate Members

Beatrice B. Berle, 4000 Nebraska Avenue, N. W.
Leonard M. Dub, National Training School for Boys

The following applicants for membership will be voted on at the business session, December 3, 1941:

For Active Membership

William K. Billingsley, Jr., George Washington University—1939
Alfred A. J. Den, Georgetown University—1939
Arthur Dick, Georgetown University—1936
Julius R. Epstein, George Washington University—1937
Leon Gerber, George Washington University—1936
Isaac S. Grisoff, University of Alberta—1929

Robert H. Groh, University of Pittsburgh—1937
Harold L. Heiges, George Washington University—1940
Donald H. Leeper, Jr., George Washington University—1938
James P. Lyons, Georgetown University—1938
Laurence G. Pray, Washington University, St. Louis—1935
Thomas F. Quinn, Georgetown University—1939
Hilbert S. Sabin, Johns Hopkins University—1936
George J. Stuart, University of Bonn, Germany—1934
William J. Tobin, Medical College of the State of South Carolina—1935
Irving W. Winik, George Washington University—1937

For Associate Membership

Philip W. Huntington, Columbian University—1898
Albert J. Orlosky, Georgetown University—1937
Edna F. Patterson, College of Medical Evangelists—1917
Philip H. Varner, Duke University—1938

Recent changes in membership status:

Active to Associate

Gerald A. Hopkins
Arthur J. Mourot
Thomas J. Ready

Resigned:

Active Member

Albert E. Meisenbach, Jr.

NEWS AND PERSONALS

The 31st Annual Clinical Congress of the American College of Surgeons will convene in Boston, November 3 to 7, with headquarters at the Statler and Copley-Plaza hotels. The preëminence of American surgery in a changing world, and the responsibility entailed by that international leadership, will be the theme of the Congress. **The 24th Annual Hospital Standardization Conference**, sponsored by the College, will be held concurrently with the Clinical Congress. It is expected that about 5,000 surgeons and hospital executives from all parts of the western hemisphere will attend these meetings.

The Southern Medical Association will meet in St. Louis, November 10–13. Registration, exhibits, and all scientific meetings will be held at the Municipal Auditorium, while social events scheduled for the evenings will take place in the Jefferson Hotel. A special announcement of these meetings will be found on page vii of this issue.

The Association of Military Surgeons of the United States will hold a meeting of military surgeons, October 29 to November 1, at the Brown Hotel, Louisville, Ky. All members of the medical profession are invited to attend, particularly members of Medical Defense Committees. Guest speakers will include the highest ranking officials of the Army, Navy and Public Health Service.

Under the auspices of the American Association of Industrial Physicians and Surgeons, **the American Conference on Industrial Health** will hold its second annual meeting, November 5 and 6, at Chicago Towers, Chicago, Ill.

Meetings will take the form of symposiums, which will relate to technical problems of industrial health, economics of industrial health and social implications of industrial health.

The George Washington University School of Medicine began its 117th session on September 22. The opening address was delivered by **Dr. William T. Davis**, who discussed "Medical Ethics." **Dr. Walter A. Bloedorn**, Dean of the School of Medicine, was later host at a luncheon at the Army and Navy Club for those who participated in the opening assembly and a number of other guests.

In line with the national defense program, the School of Medicine has admitted 14 more students this year to its freshmen class than it usually enrolls, making a total of 79 instead of 65.

The Washington Ophthalmological Society will hold its first meeting this year, November 3, at the Episcopal Eye, Ear and Throat Hospital. The principal speaker will be Dr. Thomas Johnson of New York City, who will discuss neuro-ophthalmology.

The Washington-Baltimore Psychoanalytic Society held its first meeting of the season on October 11 at the Medical Society's building. Gregory Bateson, Cambridge University, England, spoke on "Character and Culture," illustrated with moving pictures of native behavior in a New Guinea tribe.

The United States Civil Service Commission announces that there are positions open in the field of maternal and child health in the Children's Bureau of the U. S. Department of Labor. There are also openings in similar positions in state agencies coöperating with the Children's Bureau. These positions pay from $3,200 to $5,600 a year. Applications must be filed before November 15, 1941. Further information may be secured by writing the United States Civil Service Commission, Washington, D. C.

The Welfare Association of the U. S. Department of Agriculture informs the Society of a blood donor project which the Department of Agriculture has just initiated for its employees and dependents. Members of the Society are invited to use this service when needed for any department employee. They may telephone Miss McFadden, nurse in charge of the Main Emergency Room of the Department of Agriculture (Republic 4142, Ext. 5530), between 8:15 a.m. and 3:45 p.m., and she will send a donor of the required blood type to whatever hospital address is given. In case of an emergency, where the patient cannot wait for a donor to be sent, the Association promises to replace any blood taken from a hospital blood bank the following day. The international classification is used in typing the blood of the donors in this group.

Dr. William Ross Cameron, 29 South Green Street, Baltimore, Maryland, was commissioned Senior Surgeon, United States Public Health Service, for duty as Regional Medical Officer, Third Civilian Defense Area, on September 13. Dr. Cameron served for fifteen years as Public Health Administrator in Alabama and West Virginia, and with the Maryland State Department of Health.

Lt. Col. A. Clagett Gray, Chief Medical Officer, District of Columbia Selective Service, addressed the Health Division of the Washington Council of Social Agencies at a luncheon meeting, September 29. The topic he presented was "Selective Service Rejections in the District of Columbia."

Dr. John R. Cavanagh was honored recently by Pope Pius XII, who appointed him Knight Commander of the Order of St. Gregory the Great. According to *Catholic Review,* official organ of the Archdiocese of Baltimore and Washington, Dr. Cavanagh is one of the youngest ever to receive the honor in this country, which was accorded him "in recognition of his leadership as a Catholic layman and above all in appreciation of his devotion to the care of the sick poor." Dr. Cavanagh received this distinction particularly for his work at Gallinger Municipal and Georgetown Hospitals.

Several Society members participated in the **Interne Alumni Clinic Day** at Memorial Hospital, Pawtucket, Rhode Island, October 22. Speakers and subjects discussed were: **Dr. William J. Cusack,** "Office Treatment of Vaginitis and Cervicitis"; **Dr. Garnet W. Ault,** "The Treatment of Common Rectal Diseases in General Practice"; **Dr. Fred O. Coe,** "X-ray Diagnosis of Lesions of the Urinary Tract"; and **Dr. Wallace M. Yater,** "Differential Diagnosis of Jaundice."

Major Robert A. Bier returned recently from a speaking tour through the West where he addressed the following medical organizations: Michigan State Medical Society, Grand Rapids, September 17; Colorado State Medical Society, Estes Park, September 18; Salt Lake County Medical Society, September 22; and Nevada State Medical Association, Elko, Nevada, September 27.

Dr. Wallace M. Yater gave a diagnostic clinic on jaundice at the Interstate Postgraduate Medical Assembly in Minneapolis, October 17. On October 18 he addressed the internists of Duluth, Minnesota on the subject, "Arteriovenous Fistula."

Dr. Oscar B. Hunter, President of the Washington Kiwanis Club, was host September 25 at a preconvention luncheon at Doctors' Hospital, which started registration for the Kiwanis Club's Capital Convention. After the luncheon short addresses were made by Dr. Hunter and **Dr. Charles Stanley White,** President of Doctors' Hospital.

Dr. Jerome F. Crowley was appointed a member of the District of Columbia Board of Examiners in Medicine and Osteopathy at a regular meeting of the District Commissioners, September 18, 1941.

THOMAS DOWLING, M.D.
(1870–1941)

Dr. Thomas Dowling, a Life Member of the Medical Society of the District of Columbia, died September 24, 1941 in Wilmington, Delaware. He had been in poor health for many years.

A native of Washington, D. C., Dr. Dowling was born in 1870. He graduated from Columbian University, now George Washington University, in 1898. He served as company surgeon for the Pennsylvania Railroad for a number of years and was then transferred to Wilmington, where he had since resided.

Dr. Dowling became a member of both the Medical Association and the Medical Society of the District of Columbia in 1899. He was also a member of the American Medical Association, and a thirty-second degree Mason.

Surviving are his wife, Mrs. Roberta Hodges Dowling; a son, Captain Thomas R. Dowling, III, U. S. A. of Washington; and two brothers, Harry W. and Noble C. Dowling, also of Washington.

THOMAS F. LOWE, M.D.
(1880–1941)

Dr. Thomas F. Lowe, Professor of Anesthesia and Professor of Clinical Obstetrics at Georgetown University School of Medicine, died September 13, 1941, at his home, 2322 19th Street, N.W., following an illness of several months.

Dr. Lowe was born August 17, 1880 in Baltimore, Maryland. He received his degree of Bachelor of Arts from Loyola College, Baltimore, in 1898, and his degree as Doctor of Medicine from Georgetown University in 1902. In 1928 Georgetown University conferred upon him the honorary degree of Doctor of Laws for his achievements in medical science.

He served his internship at Children's and Emergency Hospitals, and was resident physician for one year each at Georgetown and Columbia Hospitals. At the time of his death he was chief anesthetist at Columbia Hospital, and anesthetist at Georgetown and Episcopal Eye, Ear and Throat Hospitals.

Dr. Lowe had retained Active Membership in the Medical Society of the District of Columbia since 1906, with the exception of the years 1928 to 1938. He was a member of the American Medical Association, the Washington Gynecological Society and the Georgetown Clinical Society. He contributed a number of articles to medical journals.

He is survived by his wife, Mrs. Helen Roy Lowe; three sisters, Mrs. Robert Lewis and Mrs. Arthur Padgett of Baltimore and Mrs. John Pletcher of New York; and a brother, Vincent Lowe of Baltimore.

JOHN P. H. MURPHY, M.D.
(1879–1941)

Dr. John P. H. Murphy, an Active Member of the Medical Society of the District of Columbia and senior medical officer of St. Elizabeths Hospital, died September 19, 1941, following an illness of several months.

Dr. Murphy was born May 29, 1879, in Dorchester, Massachusetts. After receiving his medical degree from Tufts Medical College of Boston in 1910, he practiced for a time in Cambridge, Mass. From 1911 to 1913 he was associated with the Taunton State Hospital and the Boston State Hospital. In 1913 he joined the staff of Saint Elizabeths Hospital.

Dr. Murphy was elected to membership in the Medical Society of the District of Columbia in 1932. He was also a member of the American Medical Association, the New England Society of Psychiatry, the District Tufts Alumni Association, the Medical Society of St. Elizabeths and St. Elizabeths Hospital Recreational Association. He was a diplomate of the American Board of Psychiatry and Neurology, and contributed frequently to medical journals. He was affiliated, too, with the Anacostia Masonic Lodge No. 21.

Surviving are his wife, Mrs. Bettie L. Murphy, and two sons, Dr. John M. Murphy of the Medical Corps, now stationed at the U. S. Naval Hospital, Washington, and Robert E. Murphy of Washington.

JAMES ALBERT POTTER, M.D.
(1880–1941)

Dr. James Albert Potter, an Active Member of the Medical Society of the District of Columbia, died suddenly in Minneapolis, Minnesota, on August

27, 1941. He resided at 2212 Wyoming Avenue, N.W.

Dr. Potter was born June 29, 1880, at Clayville, Oneida County, New York. He began his study of medicine at Georgetown University, but graduated from Howard University in 1907. He had been engaged in the general practice of medicine in the District of Columbia since that time.

Dr. Potter became a member of the Medical Society of the District of Columbia in 1912. He was also a member of the American Medical Association, and was affiliated with Masonic Lodge No. 3, F. & A. M.

He is survived by his wife, Mrs. Bessie K. Potter.

WILLIAM DYKE, M.D.

(1899–1941)

Friends of Dr. William Dyke, an Associate Member of the Medical Society of the District of Columbia, were shocked to learn of his death in an automobile accident on September 26, 1941, in Tacoma, Washington. Dr. Dyke, who maintained his Washington residence at 2112 F St., N.W., had recently been commissioned Lieutenant in the Medical Corps of the United States Navy.

Dr. Dyke was born February 3, 1899, in Brooklyn, New York. In 1925 he received his A.B. degree from George Washington University. After studying law at Georgetown University, where he received the degree of LL.B.-M.P.L., he became secretary to Supreme Court Justice Pitney, and at the death of Justice Pitney continued for a time as secretary to his successor, Supreme Court Justice Pierce Butler. Giving up law, he began the study of medicine at Georgetown University, graduating in 1929. Upon graduation he was awarded the Frank Baker Medal in Anatomy, one of the highest honors in medicine presented by Georgetown. After completing his internship at Johns Hopkins Hospital in Baltimore, he accepted an offer from Rockefeller Foundation to study in China, where he also taught in St. John's College, Shanghai, for the year 1931–32. Returning to this country he served briefly with the United States Army, receiving an honorable discharge in 1935. He then became associated with the United States Public Health Service.

Dr. Dyke was elected to Active Membership in the Medical Society of the District of Columbia in 1938, but upon leaving Washington last year to continue postgraduate study he requested a transfer to Associate Membership. He also held membership in the Shanghai Medical Society and the Washington Pathological Society.

Surviving are his wife, Mrs. Cuba Dyke; three brothers, Leo C. and William Arnold Dyke of New York, and Edward J. Dyke of Washington; and two sisters, Sister Marie Therese and Mrs. Arthur C. Vogt of Washington.

CLARENCE ALBERT RANSOM, M.D.

(1891–1941)

Dr. Clarence A. Ransom, an Associate Member of the Medical Society of the District of Columbia, died September 23, 1941, at his home in East Falls Church, Virginia, having been in poor health for some time.

Born January 25, 1891, in Baltimore, Maryland, Dr. Ransom came to Washington as a small child and graduated from Eastern High School. He received his B.S. degree from Fargo College, Fargo, N. D., in 1914, and his M.D. degree from Johns Hopkins University in 1918. During the World War he served as Lieutenant in the Medical Corps. Following the War he became associated with the United States Public Health Service. About twenty-three years ago, he moved to East Falls Church, Va.

For many years Dr. Ransom served as coroner of Fairfax County, Virginia, and still held that post at his death. He was a Fellow of the American Medical Association, an Active Member of the Fairfax County Medical Society, a member of the Medical Society of Virginia, and an Associate member of the Medical Society of the District of Columbia since 1929.

He is survived by two children, John and Martha Jean Ransom, and four brothers, Samuel J., Philip M., Edmond S., and Henry C. Ransom. His wife died several years ago.

MEDICAL ANNALS

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HEALTH AND CIVILIAN DEFENSE*

MAYOR F. H. LA GUARDIA

U. S. Director of Civilian Defense

I think our subject might be divided into three parts: first, the relation of the medical profession to public health in the present emergency; second, the responsibility and duties of the medical profession in the event that our country becomes involved in war; and third, the national health program after the war or emergency period. And I am sure I need not point out to any gathering of the medical profession that the third is ultimately the most important.

I want to say that the medical profession has responded most generously to every call of the Government. The medical side in our department of Civilian Defense has progressed perhaps better than any other branch of civilian defense. But there is a great deal to do and I am going to speak very frankly. If I had more sense, perhaps, I would not, but that is my habit. Coördination is required between all governmental departments that have medical divisions. It is really a sad commentary on our progress that it requires a national calamity or an unusual emergency to focus attention on such an important matter as public health and the relation of the medical profession to the community. And yet, that is the fact. More progress has been made in public health during the past eight or nine years than at any other period in the history of our country and we have made a very splendid start. Yet a great deal more remains to be done.

In the present emergency several departments of the Government are reaching out and clamoring for doctors. If we are not careful, the whole problem of medical care will be dislocated and out of joint. I want to make some observations, and I hope that your organization will give them some consideration.

In the first place, there is nothing more important than the general health of the civilian population. The health of the Army is equally important, but we cannot and dare not neglect the general health of the community for the sake of the Army. True it is that in some communities we can spare a few doctors. Some of them I will give you to keep but there are hundreds of counties in our country that cannot spare any of its doctors. I know you are just as ashamed of it as I am, but there are communities in our country that have no medical service—many of them! A large Army is being recruited, which requires a medical service. The recruiting of the medical service for this Army must take into consideration the needs of other departments of our Government and of the local communities of our country. If it is true, as I have read, that the plan is to take every graduate from a medical school who is physically fit and put him into the military reserve, then I say that such a plan is absolutely unwholesome and most destructive.

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* Address given at the Public Meeting held in connection with the Thirteenth Annual Scientific Assembly of the Society, October 1, 1941.

You just cannot take all these young graduates and put them into the Army. What we must do at this stage is to pool all the available young medical personnel that are coming out of the colleges, and then examine the requirements of the Army and the Navy and the Public Health Service and the municipalities and hospitals and apportion them accordingly.

I saw in some report that the Army was figuring on 6.5 doctors for every 1,000. Now they just cannot do it. You might need that number with combat troops in the field but we surely do not need that percentage while an Army is under training.

And then there is something else. You must think of these young men who are to be taken by the Army from the medical schools and from their hospital internships. They must be assigned to duty where they will get the proper training, just as they would in normal times. If you pick a young graduate from a medical school and put him to doing paper work such as they have in the Army—and I know, I was born and raised in the Army—you have simply ruined that boy's whole future. You just cannot take all these young graduates and stick them into such assignments. They must be given the opportunity of a proper internship, even in the Army. These youngsters must have internships in proper general hospitals under experienced medical leaders so that they can develop in medical and surgical experience, because—mark you—this emergency is going to end sometime. We must have a supply of young, experienced, well-trained surgeons and physicians to carry on after the emergency is over. So, the appeal that I want to make most emphatically is that there be a pooling of all the available civilian medical personnel and that, from that pool, the Army, Navy, Public Health Service—do not neglect the Public Health Service; it is the most important department of the Government today,—the private hospitals, the public hospitals, and the local health services receive allocations of physicians of all ages in accordance with their needs. This allocation must consider the interests of the entire country and the local civilian communities as well as of the Army and the Navy and the Public Health Service.

Secondly, there should be some supervision so that the young graduates are assigned to posts where they can get the necessary clinical training. I remember an experience I had. It was the first accident we had in our camp during the last war. Two planes collided one Sunday morning. Three boys came down—rather messy—and our senior doctor apparently had not had any internship. Surely he had never been in a surgical ward, and he just went to pieces at the sight of a mangled body. He was absolutely useless in an emergency and our young, skillful surgeon—an excellent doctor—took charge of the situation. When we brought the "old man" to, he started to give orders!

We cannot turn out a generation of improperly trained doctors and physicians and surgeons who have not had a proper interneship and proper hospital training. I recommend that your organization, so close to the seat of Government, take up this subject very seriously.

If this problem is properly met, the next phase is practically very easy. If we become involved in war we must assign the necessary medical service to the fighting forces, whether in the air, on the sea, under the water, or on land. At the same time we must not neglect the public health at home, because it is in times of extreme emergency that there arises the greatest danger of lowering the public health. As President Roosevelt has stated repeatedly, we must not lose any of the advances that we have made in social and economic progress. No one has contributed more to the health of the Nation than has our President by his social and economic program.

I remember a time, earlier than any of the ladies here could remember, of course, when I was a young and ambitious member of the House of Representatives up on the Hill, and a discussion concerning health arose. I do not know whether it was medical care or child welfare or nutrition. Some of us dared to suggest that perhaps in certain communities the Public Health Service could help in providing emergency medical service! We were told: "You cannot do that. Why, that is a matter of states' rights. Why, that would be an encroachment of the Federal Government. It is unconstitutional." The opponents did not realize that a microbe does not recognize a state line.

Today that attitude has been changed and Congress has appropriated generously to the Public Health Service. A first step has been taken in the control and prevention of venereal disease, to be followed, I hope, by similar appropriations for controlling tuberculosis. The Public Health Service must continue to expand its activities, regardless of the emergency.

If we become involved in a war, I anticipate absolutely no difficulty in so far as the medical profession is concerned. In the last war, the French had better artillery, the British had better planes, the Italians had better mountain climbers,—but we had the best medical service. Where I was stationed, we had 750 boys, aviation cadets, right in the midst of a malarial region. We had a very small medical division—only the senior doctor concerning whom I have already spoken and a very able and progressive young physician from Texas. We screened our barracks; we had our fly squads; we put in our own drainage; we oiled the mosquito beds; we watched the food of our men; we boiled the water; and as a result we had no trouble at all. But surrounding us, the Italian troops gulped their quinine. I do not anticipate any difficulty in meeting our military medical problems, if we become involved.

Now we come to the biggest problem: the post-emergency period. Some people say democracy is challenged. It is. But it is not challenged on the battlefield alone. The major challenge to democracy after the war is over will concern whether or not we can translate into action, into reality, all that we say about democracy; whether or not we can solve our economic and social problems. And perhaps the most important part of our economic and social problems concerns the health of our people.

Medical care in our country is no longer a luxury. It is something that every man, woman and child is entitled to have. I have no intention of discussing medical economics tonight—do not be afraid—but you gentlemen must help solve the need for adequate medical care for all the people. One thing is certain—that every man, woman and child is entitled to medical care; and that every expectant mother is entitled to obstetrical care—prenatal, and at the time of the delivery of the child. If we can do it in New York City, it can be done in every other community of the country. And yet there are hundreds of communities that have no medical service. There are hundreds of communities in our country that have absolutely no provision for maternity care, no prenatal service, or no care of the infant after birth. We must correct that deficiency!

We ought to be thinking about it now. There is nothing that is worrying our President more than the post-emergency problems. Now is the time to begin formulating our plans so that when this war ends, all we need do is take the plan out of the drawer and put it into operation. Do you realize what it means to have $1\frac{1}{2}$, 2 or 3 million men demobilized and sent back to the communities; what it means to stop war production overnight? It will present enormous problems. We were caught after the last war; it cost us billions and billions of dollars and yet we have not succeeded in solving all of our postwar problems. We must now give thought and study to planning for the future: how we are going to keep these people employed; how we are going to transfer our industries back into normal production; how we are going to maintain the health of our people. The medical profession must take its great part in this post-emergency readjustment, and must begin to plan for it now.

It has been said by some that the medical schools are turning out too many doctors. We also have millions and millions of bushels of surplus wheat and bales of cotton. But we do not know what the real surplus is until every man, woman and child in this country is properly fed, and properly clad, and properly housed. And that is true of your profession. Of course, if you come back and ask me about my profession, I will immediately concede that there are too many lawyers. We could have a moratorium on lawyers and still the country would not miss us. But we cannot determine whether or not we have too many physicians and surgeons until the entire population of the country is properly serviced. I believe that now would be a very good time to adopt a proper national standard for medical schools. No medical school should be permitted to continue which does not have proper hospital facilities.

Physicians must assume the responsibility for proper preventive medicine in every community. This is not alone the job of its Health Department—of the state, the county, or the municipality. On the other hand, no one should be a health officer who is not an M.D. We have developed a great preventive medical service in the Health Department in New York City. We have divided the city into fifteen health districts, with a fully equipped health center properly staffed and manned in every zone. Here we have clinics, public health stations, prenatal services, contagious disease services, baby health stations, free laboratory service and X-ray examinations—a complete health service for an area containing 250,000 people. No health zone is larger than the average large American city. Such regional or district planning must be carried out throughout the country. In spite of the existence of these public health services, there is no competition in our city with the medical profession. People who can afford proper medical care are advised to obtain it. Physicians send patients to our clinics and to our health centers when they cannot afford the proper medical care. There is complete coöperation between the medical profession and the Health Department.

We are not doing as much as we should in scientific research. That can no longer be left entirely to private resources. I have just authorized in New York City a new cancer research hospital. For this purpose we are building the Nightingale Hospital with a research arrangement with the Presbyterian Hospital and Columbia University. Since I became Mayor, I built a Chronic Disease Hospital, with 1,500 beds to care for those middle-aged and old-age cases, chronic cases who were previously neglected. We have made arrangements with both New York University Medical School and with Columbia for an adequate medical staff and for scientific research work. These patients, heretofore institutionalized with little or no medical care, are now receiving proper scientific medical care, and at the same time we are carrying on very fine research work on the diseases of middle age.

We have added several hundred beds for tuberculosis patients during my time. The Triboro tuberculosis hospital which we have just opened has 500 beds. We are dedicating another one on North Brothers Island in a few days, in addition to a new pavilion at Sea View Hospital.

Now here in the field of tuberculosis is a challenge. Medical science has contributed perhaps all there is to know about tuberculosis. If we continue to make progress as we have been doing during the past eight years with the President's health and social welfare program, and if there is no relenting during the National Emergency, we can eliminate tuberculosis in twenty-five or thirty years. It is no longer a purely medical question. The medical profession has pointed the way to its prevention. It costs money; it costs a lot of money, but it can be done. And that is another appeal I want to make to the medical profession tonight, to get back of every program for tearing down slums and building decent, sanitary, cheerful homes.

In the wake of the last unemployment depression we did not have the number of cases of tuberculosis that we have had in our country following other depressions, because of the President's program of providing employment for the unemployed and the coöperation of the states and municipalities in providing direct relief for those not on work relief. Particularly in the large cities we have been able to provide proper nourishment for these families, and especially for the children. So that, although we have spent millions and billions of dollars, if you please, to take care of the destitute of our country, destitute through no fault of their own, we shall not have a large group of undernourished children, diseased and particularly tuberculous, to support.

I have already built or have under construction about $130,000,000 of low-cost housing in New York City, but that will provide only for about 85,000 families. One hundred and thirty million dollars seems to be a lot of money and yet it will not solve our housing problem. The medical profession is the one group in this country that must get back of the housing program for health reasons. You will meet opposition in your communities from the real estate people. They will tell you, "We have our money invested there and you cannot put up houses and compete with us. That is paternalistic. That is bolshevik. That is bad." Well, what are you going to do? You as physicians must help in this fight for better health.

We claim no originality for this idea of better housing. Jacob Riis, who wrote "How The Other Half Lives," Lillian Wald and others were the pioneers in slum clearance. We came along twenty or twenty-five years later. The opposition is still very stiff and you will find it so, but the medical profession ought to get back of it in every community. We design our new houses, low-cost now, so that there is a window in every room, and sunshine for every window. You won't believe it, but I hear people say, "It is fine to be poor now." They actually say it, you know.

Now the question of nutrition. That is a very delicate subject and some of my friends are not talking to me any more because of my views. The science of nutrition is very important. No question about it. You do not have to waste a minute debating the importance of the work which the nutritionists and the dietitians are doing. The modern scientific work is truly great. Yet there is something wrong with the technic of health education in nutrition. I suppose you listen to the radio. Turn on the dial and you may hear a little dialogue about weak little Johnnie. Johnnie's mother, talking to her neighbor, learns that her neighbor's child is strong and healthy. They exchange views on what Johnnie eats and what Tommy eats and, finally, come to the conclusion that Johnnie is not getting the right food. And then it always ends, "Be sure to give your children plenty of milk, plenty of eggs, meat and greens, and plenty of fruit."

I do not know how it is in your community but I can tell you about my community. The mothers of my city have had this information drilled into them. They have not got the money to buy the proper food. In carrying on a worthy campaign on nutrition education, we must not forget that true malnutrition is essentially an economic problem. The young mothers of today are intelligent. I remember at the beginning of my career back in 1906 to 1908, when I was serving on Ellis Island as an interpreter, immigrants were coming in pretty fast and heavy.

We were all doing a little social work. You'd go to a mother and you'd say, "You had better go to the health center, the clinic, the baby health station, and they will tell you what to do." Immigrants from some of the southeastern European countries believed that scabs on a baby's head were a sign of health. And invariably, the mother, whether Jewish, Irish or any other nationality would say, "I have had five children of my own. That old maid!—what does she know about bringing up children?"

Now that degree of ignorance and that attitude no longer exists. We get the full and complete coöperation of the mothers. They are intelligent and they know how to care for the children. They take advice. They accept prenatal advice, proper care at the birth of the child. They follow advice about nutrition, bring their baby in regularly, watch its diet. If they cannot provide proper food for their infants, we see that they get it and we do it without any embarrassment or humiliation to them. Undernourished, sick children are a terrible drag on any community. We have been able to wipe it out almost entirely in a great center like New York for we have the coöperation of the people. I do not mean to underestimate or criticize in any way the fine programs of nutrition education; I think they are fine and the scientific side of it is wonderful. But our greatest problem is to see that when this terrible period of emergency is over, we shall have so adjusted conditions that the head of a family will be able to find gainful employment and earn enough to provide for his family. I am sure you agree with me that a major part of our nutrition problem can be solved only by gainful employment of our people.

To follow up what has been accomplished in the cities, and here is where I think our Public Health Service comes in, we must provide medical service in every county, in every state of the nation. In the after-war or post-emergency period, we should be able to absorb a great many of the surgeons and physicians who will have been taken into the Army and who are unable to reëstablish themselves in practice. They can be the vanguard of our health services for the people in areas which are now inadequately supplied with medical care.

In these counties we must provide maternity hospitalization and we must provide general hospitals so that proper care may be given to the people. Under our able Public Health Service, preventive medicine will do much to solve our economic problems. The medical profession has not only a great opportunity, but it has a great responsibility. Research work must continue, particularly in cancer, heart disease, and the diseases of old or middle age. The communities themselves will be obliged to provide many of the institutions to carry on this research work.

On the preventive side, our housing program is most important. Infant children must have proper and sufficient nourishment. The progress made in venereal disease, both in prevention and care, promises that we shall ultimately be able to eliminate that as a problem. We have carried on some very interesting experiments in my city on the five-day drip treatment for early syphilis and, before long, I am informed, it may be generally applied.

At the present time, if I may say so, I believe that the Government should provide or coöperate in providing treatment for remediable disabilities because of which men have been exempted from military service. The percentage of rejections is out of all proportion to what it should be. There is no reason why a young man should escape military service because of a slight dental defect or some other trouble that a minor operation or treatment could cure. It places a premium on neglect. I do not think the Army Medical Service or the Selective Service System have been as progressive as they could in this matter. Where treatment might make the young man eligible it should be provided at once. If disability is due to misconduct or neglect, particularly the venereal diseases, he should be

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THE HEALTH OF THE NATION AS REVEALED BY SELECTIVE SERVICE*

Colonel Leonard G. Rowntree
Chief, Medical Division, Selective Service System

I want to discuss the results of physical examination by the Selective Service System and Army Induction Boards, and particularly the rejections for medical reasons that have occurred. We have concluded the first year of our work in classifying registrants and providing qualified manpower for the armed services and can well take stock of our efforts at this time.

A review is opportune since the third and most comprehensive statistical survey has just been completed by the Division of Statistics and Research, Selective Service System. I will limit my remarks today to certain phases of this survey.

The earlier studies, made in February and April, suggested that the total rejection by Selective Service and the Army by reason of physical or mental defect amounted to about 44 per cent. The most recent survey indicated that rejections now reach 50 per cent. Of course I do not believe that this increase within a few months represents any change in health, but it does reflect an increased efficiency of examination procedure within Selective Service. Concurrently with our own improvement during the early months, Army Induction Boards also operated with increasing precision and uniformity, and these more exacting requirements for qualification were met by Selective Service physicians. A registrant who qualifies today and is inducted into the Army can feel distinctly honored. Certainly it is harder to get into the Army now than previously and I believe this care in selection has resulted in an army of better physically and mentally qualified men. As the number of men needed for the Army as originally stipulated has now been reached, we fortunately have not had to yield caution to haste.

A comparison of the last war's statistics with those of the present emergency is enlightening. In the last war 65 per cent of the men were found fully acceptable, another 10 per cent being eligible for limited service. Thus we had an acceptance of 75 per cent and a rejection of less than 25 per cent. In the current "emergency" as compared to the rapid demands of the first mobilization, due to war status, we have accepted 50 per cent. All others are completely rejected, no men being taken into the Army for limited service. Nor is the Army, according to present plans, going to add to its great responsibilities by including rehabilitation.

The number of registrants who have been examined to date by Selective Service is in the neighborhood of 1,800,000 and of this number more than 800,000 have been rejected. Many of these men are in need of rehabilitation. Current causes for disqualification by medical examiners are as follows:

ORGAN OR SYSTEM	PERCENTAGE OF TOTAL REJECTIONS (SELECTIVE SERVICE AND ARMY)	EARLIER INCIDENCE (FEB.–APRIL)
Teeth	20.9	18.7
Eyes	13.7	11.1
Cardiovascular	10.6	9.32
Musculo-skeletal	6.8	7.7
Ears	4.6	5.5
Mental and Nervous	6.3	3.6
Hernia	6.2	4.4
Venereal	6.3	3.6
Feet	4.0	3.2

Although dental standards are far from prohibitive, the Army requiring only twelve serviceable teeth, six below and six above which meet, 20.9 per cent of registrants examined are nevertheless disqualified. Dental officers who have studied this undesirable situation state that practically all men who are inducted into the Army require some dental attention. Missing teeth and pyorrhea are the principal causes for rejections. The incidence of gingivitis is high and suggests either lack of tooth brushing or malnutrition with consequent avitaminosis. Despite liberalization of standards, rejections for dental defects by Selective Service and the Army have increased.

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* Address before the Thirteenth Annual Scientific Assembly of the Society, October 2, 1941.

Defects affecting vision are the second largest cause for rejection. Correction of refractive errors may well render a tremendous number of these men available for efficient service in national defense. I am particularly sensitive to the disability consequent to such defect because continuance of my own work has depended entirely on glasses. Registrants presenting themselves for examination should bring their glasses with them. Whether the greater use of the eyes among students has contributed to the prevalence of poor vision is not known. Dr. Diehl, Dean of the University of Minnesota Medical School, has shown that the incidence of eye defects is very much greater in university students than in the general population.

Our cardiovascular examinations are made at a time of life when cardiovascular diseases as a rule do not play a very important part. There may well be in many of these men the potential element which will lead to cardiovascular disease of a serious nature in later life.

Rejections for musculo-skeletal defects have affected 6.8 per cent of registrants placed in the categories I-B or IV-F (I-B, fit for "limited military service only"; IV-F, "unfit for any military service"). Although this suggests an impressive prevalence of these defects, medical discharges from the Army indicate that a considerable proportion of men with such disability nevertheless are overlooked and inducted. The ability of the men we select to serve effectively is of course the real criterion of the efficiency of medical examinations in the procurement process. Our failures are reflected in discharges for disabilities existing prior to induction, now being separated from the service. In this regard, a recent report from the Surgeon General's Office has been of great interest to us. Men entering the Army through Selective Service have a lower rate of subsequent discharge by reason of medical disability than those procured through other channels, such as the recruiting service of the Regular Army and National Guard.

This Surgeon General's report also showed that the chief cause for medical discharges from the Army was nervous or mental disease, almost one third of such discharges in fact. The experience of the Army proves that although we have been rigid in our standards for qualification in this field, we have not as yet applied these standards with sufficient effectiveness. Most of the discharges were cases of epileptics and dementia praecox, gross disturbances whose detection in their early stages is made more probable when an adequate social and medical history is available. The most serious mistakes we can make are in this field. There is a great need for additional use of psychiatrists, and increasing interest of the medical profession in this aspect of selection, not only in the interest of the Army but in consideration of the cost to the taxpayer.

The increase in the incidence of venereal disease has been considerable. Routine serologic examinations, insisted upon by the United States Public Health Service, have been of tremendous value and have revealed many instances of "hidden" syphilis. It has been estimated that the facilities and services rendered available by the Public Health Service have resulted in the discovery of 80,000 cases of syphilis and 21,000 cases of gonorrhea. The incidence of venereal disease has a distinct geographic distribution. Thus, as many as 33 per cent of the negroes in some of the southern states are infected. Firm measures are necessary in managing the preventive and treatment aspects of venereal disease The possibility of deliberate infection as a form of evasion is not to be overlooked.

Hernia constitutes 6.2 per cent of rejections. There is occasionally considerable doubt as to whether a particular case presents an actual herniation or merely an enlarged inguinal ring. Many of the latter cases have been disqualified needlessly. From the standpoint of rehabilitation, hernia offers an opportunity, since in young people such a defect is usually remedied quite easily and the mortality from surgery is exceedingly low. On the other hand, if allowed to progress the anatomic defect becomes more serious and the mortality after surgery more prohibitive. Consequently, there is a great advantage in attempting to repair hernias appearing in this age group.

Defects of the ears may be associated with the diseases of the nose and throat. A suit was recently brought against one of our physicians because of the alleged perforation of the ear drum during examination. It was most gratifying to witness the prompt coöperation of our Legal and Medical Division, all Selective Service and other Government agencies, in supporting the doctor and the state organization which he served. Investigation revealed that there was no evidence of negligence on the part of anyone.

Flat feet results in 4 per cent of the rejections. There is no better method than an anatomic and functional study to determine such defects.

Pathology of the lungs causes less than 3 per cent of rejections. The value of the X-ray has been established beyond a doubt. By the first of the year the Army expects to have sufficient X-ray facilities to routinely examine all registrants presented for induction. It is indeed a satisfaction to be able to report that tuberculosis has markedly decreased in recent years.

Having surveyed in general the health situation of this age group as revealed by our statistical studies—what are we going to do about it? This is the most interesting question I have faced since coming into Selective Service. I early advocated a policy of prehabilitation in which all registrants are to be informed as to the physical requirements and urged to prepare themselves, previous to Selective Service examination. The American Medical and Dental Associations have supported this policy. The University of Minnesota has developed a procedure which we hope will provide a pattern to be utilized throughout other universities.

This is our medical problem—the 800,000 registrants who have been disqualified for physical disability. Medical men are called upon for a broader conception of their function. I myself have experienced a peculiar change in interest during this past year with regard to the function of medicine. As a general practitioner, consultant and teacher, I have sat on one side of the desk and tried to care for patients who sought my help—the disabled, the crippled, and the diseased. However, there are a tremendous number of individuals with "hidden" diseases who, in the usual course of events, would never get to the doctor. If we are to improve the health of the nation, we must make efforts to reach and eliminate such defects. Any doctor studying disease en masse, as has been my opportunity in recent months, would have been impressed with this need and the singularity of our great opportunity.

I believe this is a day of great opportunity in medicine. The national emergency and the enlarged scope of our activities as physicians have made it clear that our function cannot be restricted to our individual offices, but must reach the many people in this country who need medical and dental rehabilitation.

To effect this need which we have so recently realized, we have set up several experimental units in an effort to determine the number of selectees who will accept rehabilitation and the cost of such treatment. We have the interns, doctors, dentists, hospitals, clinics, social and Federal agencies—our problem is to effect a procedure which can make use of all of these resources for the improvement of the health of the individual and the nation. Now naturally we feel that a complete examination is of extreme importance for individuals. Such examinations, preferably periodic, have been stressed as desirable in many of the medical meetings which I have attended. The national emergency has presented us with the opportunity of a great national experiment, the greatest that has ever existed from the standpoint of medicine. A compulsory examination for this age group is enabling us to appraise the health, not of hundreds or thousands, but hundreds of thousands. We have examined 1,800,000 and we know that 800,000 need help.

It is necessary that the medical profession support, in every way possible, the program of rehabilitation. The doctor and dentist will be confronted by an infinite amount of work, some of which will result in remuneration. The many thousands of doctors participating in the medical examinations of Selective Service have no doubt acquired a broad conception of the possibilities as a result of their experiences with this age group. Those who have concerned themselves with this problem have agreed upon one point: Rehabilitation should proceed through the family doctor and dentist and not until we have reached the limits of this resource should we call upon social or Federal agencies. This is a policy with which we ought to confront the interested agencies so that complete coöperation will be maintained. In the District of Columbia, we have a unique opportunity in this regard: medical resources of high caliber, and in quantity; national headquarters of the armed services; and Government social agencies, together with a society of medical men that has invariably and willingly participated in the development of better medicine. The formulation of plans for a national health program should be a responsibility of the professions of medicine and dentistry as well as the interested Government agencies. I believe we can create here in the District a model program which could eventually be adopted for national use.

In conclusion, I would like to emphasize this thought: The national emergency has offered the opportunity of large scale compulsory examination, with the resulting revelations as to the health needs of the people as I have attempted to review with you. We can make this a day of destiny for medicine, not only to serve in the sense that we have previously served, but to contribute immeasurably to the maintenance of all those values which the national defense effort seeks to preserve.

Say outlook for coronary thrombosis is generally quite favorable. A ten-year analysis of the after-history of 200 patients with coronary thrombosis indicates a favorable outcome in a larger percentage of cases than is generally appreciated, Edward F. Bland, M.D., and Paul D. White, M.D., Boston, report in *The Journal of the American Medical Association* for October 4, 1941. The two men point out that although particularly encouraging reports of special instances of an unusual longevity of seventeen to thirty-seven years have been made occasionally, the implication for the majority of patients with coronary thrombosis has been still far from comforting. They report on the history of 200 patients seen by them between 1920 and 1930.

"Of the entire series," they say, "38 (19 per cent) died during the first four weeks after their initial attack. . . . Approximately one third (34 per cent) of the 162 patients who survived the acute attack recovered completely, in that they were able to carry on without cardiac symptoms. . . . The course of this group was the most favorable; more than half (56 per cent) survived the first decade. Of those who died after temporary 'complete' recovery, coronary insufficiency accounted for most of the deaths. . . . Of the 18 patients who succumbed to failure of the coronary circulation, 11 had another and fatal occlusion; 6 died suddenly, presumably of acute coronary insufficiency . . . and 1 died during severe angina pectoris. It is of interest that only 1 in the group who completely recovered later had congestive failure.

"In contrast to the group who completely recovered, a second group of 63 . . . were limited thereafter by angina pectoris on effort. Nevertheless, 19 survived the ten-year period. A slightly higher proportion (34 of 44 patients, or 77 per cent) died later of coronary insufficiency. . . . Of these 34, 11 had a subsequent fatal occlusion, 14 died of increasingly severe angina pectoris and 9 died suddenly. Again it is of interest that only 2 later had progressive congestive failure.

"Finally, among the remaining 44 patients, dyspnea on exertion . . . was chiefly responsible for limitation of activity, although some had both angina pectoris and dyspnea. . . . None with dyspnea survived the ten-year period. . . .

"Thirty-three of the 50 patients who survived the first decade were limited by angina pectoris as they entered the second decade, and 9 of these had one or more later attacks of coronary thrombosis; the remaining 17 were without cardiac symptoms, although 6 had further attacks of coronary thrombosis, from which they completely recovered."

PUBLIC HEALTH AND NATIONAL DEFENSE*

Warren F. Draper, M.D.

Assistant to the Surgeon General, United States Public Health Service

National defense did not mean the creation of new divisions nor many new procedures in the Public Health Service. It did mean a very considerable intensification of activities which in normal times were pretty much spade work. It did give us the opportunity to learn much that previously we had only suspected. And I think the tempo of the defense program has advanced the practice of public health in this country by a decade.

When the first faint stirrings of the now tremendous national defense machinery were heard, we of the Public Health Service saw two immediate problems. They were the protection of health in communities springing up around the Army cantonments, and second, the protection of the new army of workers in defense industries.

Previously the federal-state coöperative programs had gone far to increase and improve local health service in the United States. But many small communities were still without health service, or at least with only inadequate facilities. And, of course, in normal times public health needs in these communities were perhaps modest.

But picture now what occurs when one of these small townships or counties finds an Army cantonment of 30,000 men sprung up in its midst. True, Army surgeons will protect the health of the soldiers, but what about that other army of tradesmen, entertainers, workmen and camp followers which suddenly parachutes down in the midst of this sleepy community? Even the most elementary needs of public health are often lacking—sewage disposal systems, pure water supplies, immunization against communicable disease. Small communities absolutely required the financial assistance and technical guidance of the Federal Health Service. They are getting both.

Protection of the health of defense workers was a bit more complex. During the years following the last war, the United States Public Health Service, by continued research into causes of industrial disease, had accumulated vast material upon which a model industrial hygiene program could be based. The Social Security Act provided the funds for putting that program into action. Thirty-four state health departments established industrial hygiene units with those funds. But the chronic ailment of nearly all public health work, budgetary limits, held the work to a slow pace.

Then came the mushroom growth of defense industries. Many states had to enlarge their industrial hygiene units. Big, new industries wanted technical advice to safeguard their high-priced and hard-to-get labor. These problems, too, are being solved.

Two important new problems were created by the mobilization of more than a million of this nation's young men for armed service, the control of venereal diseases and the rehabilitation of men found not physically fit for military duty.

Federal and state public health men convinced the Selective Service of the value of serologic tests for all registrants. Here was a splendid opportunity to discover the amount of syphilis among a truly significant sector of the population. We found that of the first million men tested, 48,000 gave positive blood tests for syphilis. Of these 48,000 men, 1,440 or 3 per cent have clinical syphilis. The rates are generally much higher in the South than in the North. Most significant, these syphilitic young men are being rejected by the armed services and sent back to their communities without treatment.

A second unhappy condition was disclosed by the Selective Service and Army physical examinations of these young men. Forty-three per cent, nearly half, were physically unfit for general military service. The most common condition was bad teeth. Most of these men with physical defects could at this present time be made fit for military service by simple medical, dental or surgical treatment.

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* Read at the Thirteenth Annual Scientific Assembly of the Society, October 2, 1941.

Here, then, is a question of dramatic importance. What is America going to do about her young men not quite physically fit for soldiering?

Next, we come to the field of medical research. No physician, no public health officer is any better than his laboratory. So we had to intensify our research program to equal the pace of our field program. Our chemists at the National Institute of Health are in the midst of research on substitutes for antimalarial drugs and opium. Imports of these medical commodities are, of course, threatened by the war.

To our field workers in the extra-cantonment areas, the Institute sends the latest proved discoveries, a new diagnostic test for typhus and new findings on the relationship of drinking water to dental caries. To the industrial hygiene units are sent new data obtained almost daily at the Institute on industrial poisons and the means to control them. Industry is using new chemicals. Toxicologic research on synthetic rubbers, explosives, solvents, and metals used in airplane construction or munitions, must keep pace.

The Institute is assisting the Navy with problems of aviation medicine. Oxygen-breathing equipment, including masks, is tested under conditions of low pressure and temperature which simulate high altitude flights. Research on the physiology of high altitude flight is synchronized with the work of the Committee on Aviation Medicine of the National Research Council. This program includes studies of night vision, anoxemia, and the effects of rapid decompression simulating swift ascent to high altitudes. Our scientists are also assisting the Navy with selections of flight personnel.

So far I have given you a very sketchy outline of public health problems created by national defense and a hint as to how we have approached them. To summarize, these problems are concerned with public health in the newly populated, extra-cantonment areas; the health of industrial workers; the rehabilitation of Selective Service registrants rejected as physically unfit: and finally, public health research.

I believe you want to know, and certainly have a right to know, more exactly what we have done and are doing about these problems.

The first step taken by the Service was the assignment of officers to each of the nine Army Corps areas. They determined exact needs and prepared estimates. Where local health department staffs were undermanned, the Public Health Service sent professional personnel recruited from Federal Civil Service lists who had been given a six weeks' course in administrative procedures. At the close of the past fiscal year, 134 professional health workers—physicians, engineers, nurses and laboratory personnel—had received this training, and almost immediately 104 were sent to areas most needing them. Although paid from Federal appropriations, they serve state and local health departments in exactly the same manner as their own employees.

To pay for the extra-cantonment health services and the augmented industrial hygiene program, Congress appropriated a total of $3,700,000. In addition, $150,000,000 was made available by the Community Facilities Act to provide, among other public works, hospitals, health centers, water works, sewage disposal plants, garbage and refuse disposal facilities, and the like, where the Public Health Service finds them necessary.

In general, the Public Health Service priorities list rates safe water supplies and adequate sewage disposal first, health centers next, hospitals third, and public health laboratories fourth. It is the general policy, too, to erect these facilities only where the defense pressure is greatest. The final decision to build a hospital in a given area, for example, comes about in this way. First, the community decides its need and files a request with the regional director of the Defense Public Works, Federal Works Agency. The request is referred through the Federal Works Agency to the Public Health Service, which double checks the need for a hospital with its field personnel in that area. Finally, the request is submitted for approval to the Budget Bureau and President Roosevelt.

Thus the Federal Government is providing basic physical health equipment, trained workers, and technical advice to communities where defense activity has created problems which cannot be solved without outside help. One hundred and eighty-four such communities have received our help.

Perhaps no division of the Public Health Service is so intensely occupied with defense work as the Division of Industrial Hygiene. At the beginning of the emergency a four-point program was undertaken. New personnel were trained, Government arsenals and munitions plants were surveyed, field and laboratory programs were intensified, and technical assistance was given state industrial hygiene units. The new personnel, mostly professional, were assigned for an indefinite period to aid 12 state health departments. At the request of the Surgeon General of the Army, mobile field units, each consisting of a physician, an engineer and a chemist, are investigating health conditions in arsenals, Air Corps stations and Quartermaster Corps depots. Their recommendations are being carried out by the Army.

Consultation services in industrial hygiene have been provided for more than 600 plants in a score of states. As a direct result, conditions of employment for more than 300,000 workers in defense industries have been definitely improved. It is my belief and certainly my hope that following this war, America will keep in effect the splendid program of industrial hygiene which has been put in operation during the national emergency.

Again, in terms of long-range planning for national health, all of us must make some decision as to what we are to do for the thousands of young men suddenly discovered to be physically below par. We discovered the same thing during the last war. But we did nothing. I have time to speak of only one result. Dental defects among this generation of men are four times as prevalent as in 1917. On the other hand, venereal disease, which we made some attempt to control, is measurably less prevalent today.

The Public Health Service believes the young men rejected by Selective Service or the Army for correctible physical defects and for venereal disease should be given medical attention, without cost if necessary. The Selective Service Administration is now conducting a survey of 20 scattered communities to determine how many rejectees can be quickly brought up to par physically, and how much such rehabilitation will cost.

When this survey is complete, recommendations for a national rehabilitation program will be incorporated into a bill for submission to Congress. Federal Security Administrator McNutt, on advice of the Health and Medical Committee, has already approved in principle the rehabilitation of these young men. Naturally, such a rehabilitation program will be voluntary on the part of the rejectee.

Incidentally, one of the 20 communities selected for survey is the District of Columbia, and I am happy to say the Medical Society has offered its expert coöperation.

I have saved until last two special problems underscored by national defense: nutrition and nursing. All of you recall the National Nutrition Conference summoned to Washington by the President in the spring. That Conference reported that one fourth of our population, excluding those on relief, have a dangerously inadequate diet. At least three fourths of our total population do not eat well. Fortunately, much of this dietary failure is due to removal of vitamins by cooking, or by overrefinement of foods, and to unwise selection of food. There certainly is no shortage of food. The Conference drew up a food yardstick by which the housewife can select a good daily diet for her family. The Federal Security Agency has developed a national nutrition educational program to improve the selection and preparation of foods. And the food industries are also cooperating. The millers already have restored to white flour vitamins previously removed in the milling process.

Unfortunately, there is some very bad news about nutrition as well. Somehow the public has got the idea it can eat pretty much what it pleases and still attain vigorous health by snapping up vitamin pills. The modern drug store offers vitamin pills for all the classic human ailments and even that new one, lack of morale. The scramble for vitamin pills is more tragic than comic, however. Self-medication with vitamin pills is, of course, futile extravagance. But it is something more, too, for it means that the pill addicts are eating only what they like and ignoring balanced diet.

Physicians can help to clear this nonsense from the layman's mind. The public must be taught that while certain pathologic deficiencies are aided by vitamin replacement, for the normal person there can be no satisfactory substitute for milk, eggs, green vegetables, fruit and red meat. Within a few days every physician in the country will receive from the National Research Council's Committee on Nutrition a communication outlining in some detail the essential features of the nutrition program in the immediate months ahead and enlisting the coöperation of the medical profession in making it effective. Please read.

There is a big job for the science of nutrition among our defense workers too. Several years ago, Germany took measures to provide for the working class a diet better than ours now has. The old tin lunch-box should be replaced by modern plant dining rooms where balanced meals can be had at minimum prices. The Army and Navy are providing the best meals in their history. Certainly the workers who build battleships and machine guns deserve just as good food as the men who operate them.

Finally, the national emergency has turned the spotlight on a national shortage of nurses. Surgeon General Parran estimates that 50,000 student nurses must be enrolled this year. Congress has appropriated $1,250,000 to help accredited nursing schools increase their enrollment. Eighty-eight of these schools are receiving Federal financial assistance and have been able to enroll an additional 2,000 students; 67 schools are offering refresher courses to 3,000 registered nurses; and 26 are giving postgraduate courses to 500 nurses. These funds are administered by the States Relations Division of the Public Health Service.

At the annual session of the American Medical Association in Cleveland this past June, the Committee on Medical Preparedness brought to the House of Delegates a resolution urging the establishment of a Federal agency, to be known as the Procurement and Assignment Agency. This agency would enable the Government to select more wisely those physicians necessary for military, civilian and industrial services. The resolution has been endorsed by the Health and Medical Committee, and the Committee is now preparing recommendations as to the desirability of establishing such an agency.

There is, of course, much more that needs to be done, but I believe that we are going to be able to measure up to the requirements. Most encouraging, the pressure of national defense has enabled the Public Health Service to advance further in the past year than it could have done in ten years of peacetime apathy. Because we have always known how to do far more than we had the means to do, this swift advance has been entirely sound. It is laying the foundation for a future public health program not to be equalled by any nation.

In all of these efforts the coöperation of the medical profession has been freely offered and accepted. Consider, for example, the monu-

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MEDICAL FIELD SERVICE IN MODERN COMBAT*

Major General James Carre Magee

Surgeon General of the Army

I shall endeavor very briefly to portray to you the many complex and complicated problems presented to the Medical Department in providing adequate and timely medical service for casualties arising from the highly mobile mechanized warfare now designated by the term "blitzkrieg." This type of warfare has been brought to a high state of perfection and successful operation by the German Army.

The basic mission of the Medical Department has not been changed by the introduction of highly mobile troops advancing under their protecting armor and supported by dive bombers. Its mission is still to relieve the combat elements of their sick and wounded; to render first aid and to provide for the early evacuation of noneffectives to places of relative safety where definitive treatment may be inaugurated. We thereby "conserve the fighting strength" and render humanitarian treatment in accordance with the dictates of conscience inherent in all civilized peoples.

While the basic mission of the Medical Department in combat remains unchanged, modern mechanized warfare has introduced many new problems, the solution of which is necessary in order to successfully and expeditiously accomplish its mission. These will require the combined effort and ingenuity of all concerned.

In approaching these problems we can quite properly give some thought to the dictum of our students of military tactics that "for each new offensive method an adequate defense is developed."

Gas, when introduced in World War I, and employed against an unprepared force, resulted in startling initial successes. However, the development of gas masks and other protective devices overcame this initial advantage, and the defense was again on a parity with the offense.

The rapid and demoralizing advances of Panzer divisions, supported by dive bombers, parachutists and fifth columnists, constitute a new offense for which as yet no adequate defense has been developed; unless we may conclude that in spite of the wholly unreliable and propaganda-tinctured conflicting reports from German and Russian sources, that even the German "blitz" is not invincible. If an adequate defense is in the making, and when a degree of perfection has been attained, we may expect an end to the collapse of nations with the destruction of their armies in several weeks or a month, as was the case in Poland, Belgium, Norway, Holland and France. I mention this merely so that you will keep in mind the mission of the Medical Department and the probable type of tactical operations to which the Medical Department field service must be fitted and adjusted. Our whole combat area set up must be fitted into and adjusted to the tactical employment of the troops served. Yet we must furnish the best care and the best treatment the medical profession has to offer. This treatment must be made available to the sick or wounded soldier at the earliest possible moment after he becomes a noneffective.

Whenever the necessity arises to solve a problem the first natural recourse is to call upon past experiences to establish a basis of departure. The actual experience background available to the Medical Department is predicated on our experiences on the Western Front, 1917–1918. At the time of our active participation the war on this front had settled down to an extraordinary degree of stabilization, with elaborate trench systems, dugouts and pillboxes. The Air Force was employed chiefly for observation and the bombing of distant targets and troop concentrations. Hostile artillery fire was generally concentrated in the forward four-to-five-mile area of the combat zone. Offensive action or attack was generally on the basis of limited objectives, resulting in advances of from 1,000 yards to a mile or two. This type of stabilized warfare permitted us to bring rather elaborate and thoroughly equipped medical installations well forward and thus reduce the time interval between the receipt of a wound to the inception of definitive surgical care. The doctrine then was to have sorting stations with or without surgical hospital reënforcements 5 to 7 miles from the front line, our evacuation hospitals being located 10 to 15 miles farther to the rear. The whole trend at the close of the last World War was to bring our definitive treatment closer to the site where the soldier became a casualty. We also learned that the time factor was of prime importance in the effectual convalescence of a casualty. If a casualty could be evacuated to an installation where facilities permitted a thorough débridement of his wounds within 12 hours, primary closure gave more than reasonable expectancy of success, materially shortened the total hospitalization period, and restored a higher percentage to duty, whereas a longer interval gave converse results.

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* Read at the Thirteenth Annual Scientific Assembly of the Society, October 2, 1941, by Lt. Col. Howard. T. Wickert, Medical Corps, U. S. Army.

Modern tactics have demonstrated that mobile mechanized units effect a break-through and penetrate the opposing force for a distance of from 20 to 150 or more miles. This results in a rather indefinite twilight zone and uncertainty as to the actual line of contact. Under such circumstances if medical installations are too far forward they will be lost in the sudden and rather marked fluctuations of this line of contact. While the surgical or evacuation hospital is classified as a mobile or field installation, in reality when occupied with their 400 to 750 patients and without organic transportation to move either the patients or the equipment, they are relatively immobile.

The British as a result of their experiences during the current war are contemplating moving their casualty clearing stations (they are comparable to our evacuation hospitals) back 50 to 75 miles from the actual line of combat contact. This may be necessary; however, we believe these distances to be excessive, in that they will impose a greater transportation problem and will delay the inauguration of definitive surgical treatment which may be to the detriment of the casualty.

What are we doing to provide a solution to the problems confronting us? It may be well to state here that the Panzer divisions, the Stuka bombers, and the motorized combat forces constitute the new and the spectacular elements of modern warfare, which after the break-through quickly overrun areas and disrupt communications and supply. They do not constitute the bulk of the German armies. Having overrun, neutralized, and isolated an area with mechanized troops, the old-fashioned infantry, perhaps transported in trucks and supported by artillery, moves into the area, consolidates and holds it, much as in prior battles. The problem thus is narrowed somewhat for us to provide adequate medical service for these rapidly moving assault elements of the Army with only minor adjustments in our service for the remaining great bulk of the armed forces.

A board of officers has been appointed to study these mobile tactics and make appropriate recommendations looking toward a solution of these problems. Maneuvers and their lessons are being studied, and the experiences of the British, Germans and Russians, as made available through our military attache reports, are also being studied, although unfortunately not much information has come from these latter sources due to the complete exclusion of foreign military observers with the armored elements of the battling armies.

Though the studies are as yet incomplete, certain preliminary conclusions have been made in the process of arriving at an ultimate solution:

1. We propose the development of a front-line ambulance with a carrying capacity of 2 or 3 litter cases, some medical personnel, and sup-

plies, the basic vehicle being preferably of standard type that can be easily modified for ambulance work and with the ability to travel cross-country. These vehicles preferably should have light armor protection to enable them to follow the mechanized assault units, receiving, treating, and transporting casualties. The casualties should be transported to a point on the axis of advance for the assault unit, where they will be transferred to the normal ambulance evacuation service for removal to hospitals. These front-line ambulances will in reality be a sort of mobile aid station with facilities to transport casualties.

2. We have developed and are now procuring special mobile equipment for surgical hospitals. This is experimental equipment, but as a result of experience gained during maneuvers in 1940 with some obsolescent equipment we believe these units with modern motor equipment will work out satisfactorily.

The heart of these units consists of 7 specialized vehicles, 4 operating rooms, 1 sterilizing room, 1 X-ray laboratory, and 1 office and supply unit. The necessary equipment is permanently installed in these vehicles, and the operating rooms are ready to function as soon as the vehicles are parked. In addition, there are 2 standard cargo trucks in which electrical generators are installed. The unit also includes 1 standard water purification truck.

Initially, one surgical hospital will be equipped with the 7 specialized vehicles of the semi-trailer type and another one with the bus-type vehicles. We propose to obtain data from comparative field tests to determine which type of vehicle is most suitable. The surgical hospital, in addition to the specialized mobile equipment, of course, has the usual wards or hospitalization facilities, set up in units of 200 beds each, the normal capacity for a hospital being 400 beds, which might be expanded by the addition of other ward units.

3. The status of the airplane as a means of rapid evacuation over great distance cannot be overlooked. Army troop transport planes are all equipped with means for securing standard litters and can thus be almost instantly converted and made available as airplane ambulances for the evacuation of casualties. However, these planes require landing fields of fair size and condition. These will be difficult, if not impossible, to find in the area where most of the casualties will occur, and so the effectiveness of this means of transport is sharply limited. The autogiro, with its unique ability to land and take off vertically, thus requiring virtually no landing field, seems to offer a means of speedy evacuation in the forward areas. The autogiro as now developed has a limited carrying capacity of about 2 or 3 litter cases. However, it is believed that we could use them as an advance shuttle between forward areas and facilities where the larger transport planes can land and transfer patients at these points for further evacuation. We are now working with the manufacturers of the autogiro with a view to modifying and adopting autogiros for experimentation in using them for ambulance service.

In the use of airplanes or autogiros in evacuation the Air Corps will operate the planes and be charged with all installations necessary for their maintenance and use. The Ambulance Battalion (airplane) will consist of personnel and equipment necessary to render medical and surgical care to patients being evacuated by plane. The Medical Department personnel will load and unload patients. This medical unit will be temporarily superimposed on the Air Corps unit designated to furnish the means for airplane evacuation.

4. In order to provide medical service for parachute troops and air-borne infantry we are conducting practical experiments with those units. Thus far the problem has been fairly simple, in that it has not required the development of new or specialized equipment. Medical Department personnel, commissioned and enlisted, are assigned as organic parts of these units, and equipment lists consisting of litters,

splints, dressings and drugs have been prepared. These lists are so designed that all the listed items can be packed into the standard containers used by the combat unit for dropping its ammunition, food, and other necessary equipment.

5. Steps have been taken to provide prophylaxis and to guard against infections for the American soldier. In addition to the long practised typhoid and paratyphoid immunizations and smallpox vaccination, all troops in tropical service are protected against yellow fever. All military personnel are protected against tetanus by the administration of tetanus toxoid. The rapid development of chemotherapy has given the Medical Department some added ammunition to combat the ever-present infections in battle wounds. Sulfapyridine is provided for the early administration to each battle casualty in sufficient quantity to retard bacterial growth.

In the limited time available I have briefly mentioned some of the more urgent problems confronting us and our approach and progress in solving them. I have not touched on other definite problems which are engaging the attention and thought of the Medical Department.

One such subject is gas casualties. While there has been no employment of poison gas as yet, it is a possibility that dare not be ignored. Gas, in addition to presenting a special type of casualty, presents a special mathematical problem, in that we have either none, or a great number of cases occurring in a very brief period, and special provision must be made to furnish adequate medical care promptly. We have planned medical units with special equipment and personnel specially trained to treat gas casualties, these units to be in the Army or G.H.Q. Reserve and when needed to be sent forward to reënforce and supplement the medical units and installations routinely present in the combat areas.

Another phase of medical service which I will only mention is medical and physiologic research and experimentation in connection with airplane operations at high altitudes at reduced air pressures and lowered oxygen content in the air. This work has proven very interesting, and the British experience and our experimental work have emphasized the need of insuring adequate air pressure and oxygen to maintain the mental and physical alertness necessary to successfully operate a modern combat airplane at high altitudes.

In the time allotted I have tried to outline our problems and what is being done to effect a solution, without going into any detail. The problems are new and difficult of quick solution. However, with the rich background and traditions of the medical profession, I am confident that if and when the American soldier marches forth to battle he will be supported by the best possible medical service.

Massive dose of liver extract of value for pernicious anemia. The results he obtained with 19 patients indicate that the majority of persons with pernicious anemia who are in relapse can be given single massive doses of liver extract which will establish and maintain a normal blood count with satisfactory clinical improvement for several months, JOHN MARTIN ASKEY, M.D., Los Angeles, reports in *The Journal of the American Medical Association* for September 13, 1941.

The data obtained from his study of the cases also indicate, he says, that the liver storage deficiency of the substance responsible for pernicious anemia may be largely replenished by an initial massive dose.

"Since the object is to keep the liver in a state of optimum storage, injections at long intervals following the first injection would not be advisable. Replacement of utilized material should be made at regular and not infrequent intervals. Monthly injections of suitable amounts would seem sufficiently frequent.

"Further data are necessary to determine the amount of the initial dose needed to effect complete liver storage in the individual case and the dose needed to maintain complete liver storage. Investigation in the future must be directed at determining how quantitatively to correct the fundamental deficiency in the disease rather than how to correct the symptoms and signs. . . ."

"Treatment is true substitution therapy, supplying an ultimately essential principle but doing nothing directly to remove the cause of the primary deficiency. . . . Just how much of this essential substance the liver of the patient in relapse needs is not known. Since it contains no detectable amount, it must lack the amount stored in the normal human liver."

AVIATION MEDICINE IN THE NAVY*

REAR ADMIRAL ROSS T. MCINTIRE

Surgeon General of the Navy

I have selected the subject of "Aviation Medicine" for the very simple reason that the most urgent need in all of research today is to find safe means whereby our pilots can fly the machines we are now making for them in altitudes above 35,000 feet. I have also selected this so-called isolated specialty because I feel that the average man who is practicing medicine in this country is too busy to be able to follow the progress that is being made in this field. What I will present to you this afternoon will not be from the standpoint of a specialist in aviation medicine, but from one who has been associated intimately with it and with aviation through the last twenty years. I will present this subject from your side.

There is nothing mysterious about the field of aviation. When a young man graduates from his training school and becomes a full-fledged pilot he is still the same human being that he was before he started his course. True, he is now living in a much more hazardous field of activity and will be subjected to more severe strain, mentally and physically, than he has previously been accustomed to. The old myth that people in aviation are different and set apart from their fellows is steadily being exploded. The primary duty of the doctor who is a specialist in aviation medicine is to see to it that this is true. The aviator must be made to feel that he can live a reasonably normal life and that the hazards and strain he meets in his daily duty are reasonably normal for him. If he is mentally and physically alert the hazards are not insurmountable.

For many years aviation medicine in the United States Navy was given over to an attempt to aid in the proper selection of officers and men for the various branches in aeronautics. The medical officer did his best to understand the problems that faced the aviator and attempted to help him by the different crises that came into his life. These are manifold and come from various conditions that meet the pilot in the daily performance of his duty.

The early attrition, due to crashes and neuroses among students and pilots, was very alarming following the World War, and we find exactly the same situation existing today among the pilots of the British Air Force. We are finding a like situation in our naval air force following extensive activity over a period of several months. The effect of all this is as serious as if these men had been in actual combat. Pilot fatigue and staleness are two of the most important factors that the flight surgeon has to evaluate. The good judgment of the doctor is as important as the ability to recognize the condition.

In the old days inadequate provision for artificial oxygen supply was always present. Cockpits of planes were exposed and the pilots were subjected to the bad effects of extreme cold. There was no adequate safeguard against carbon monoxide concentration from the motor exhaust. All of these things helped to add a considerable confusion that was present and had a great deal to do with the feeling that the pilot had to live a different sort of life so that he would be able to throw off the effects caused by these conditions.

Very little was done to solve the cause of fatal crashes and only haphazard research attempted in the field of atmospheric hygiene, a term which you might say was practically unknown a few years ago. True, we did try to find out something about the use of oxygen in higher levels, and the attempts to break altitude records by some of our very excellent pilots, such as Champion, Soucek and others, did stimulate work in this field. The Army carried on a similar piece of work, in fact, considerably more comprehensive than that done in our Service. Still, we learned very little. Spasmodic studies were carried out in depth perception, reaction time, and the proper part peripheral vision played in the pilot's ability to see moving objects at great distances, but here again there was very little continuity.

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* Read at the Thirteenth Annual Scientific Assembly of the Society, October 2, 1941.

Rather serious attempts were made to find a proper means of eliminating the unfit from the psychologic standpoint. We know now that our attempts were ponderous and that hours and hours were wasted in our psychologic and psychiatric examinations.

While this work was being carried on, the mechanical side of aviation was going forward steadily. While personnel seemed to stay at a level, as far as crashes were concerned, the mechanical perfection of the airplanes advanced with amazing rapidity. The World War should have taught us a great deal of the absolute necessity of being able to fly safely in altitudes well above 30,000 feet. We know that up to this time the Germans have been able to fly at constantly higher levels than their opponents. It goes without saying that the pilot who is able to come in above, and behind his opponent, has a tremendous advantage in aerial combat.

Through many years preceding the present war in Europe, Germany, and to some extent Italy, carried out very extensive research in the various problems having to do with atmospheric conditions and fatigue in pilots. Great Britain and the United States did practically nothing in this regard when compared with what was done by the countries just mentioned. In the countries of Europe it has been the custom, for many years, to test all pilots in low compression chambers so that the ceiling of the individual could be established. This was done by putting the individual through many tests, not just one. Of course, this took a great deal of equipment. Until a short time ago neither Service had an installation that contained a low pressure chamber. The only work that we could do in that regard was at the Experimental Diving Unit at the Navy Yard in Washington, where the splendid work under high pressures has been carried out by that Unit.

I have painted a very gloomy picture up to this point, and it is one that we are not proud of, but like so many things through the years there was not considered a great need for hurry in solving many of these problems. Today the flying surgeon is well equipped to carry out all the routine measures that are necessary at an active aviation base or field. The Army has splendid training schools and they are able to supply the officers necessary for that Service.

The Navy has only recently established its own school for aviation medicine and is now turning out its own specialists. This is not enough, however. So today the Navy is going ahead with correlated research in all the fields that have to do with the physiology of flying. In a very few months there will be established at the Naval Medical Center in Bethesda one of the most complete laboratories of its kind in this or any other country. Here the various problems will be worked out not only by the Navy, but by any of the civilian organizations that come under our present National Research setup. In other words, we expect to see a very splendid effort made in research, and the Navy expects to play its part in coöperating completely.

We are now engaged in an attempt to find a safe and satisfactory oxygen supply apparatus. Up to this time we can not say that there is a completely satisfactory one which will function perfectly at altitudes above 30,000 feet. We hope to see this solved in the very near future. Today planes fly at 400 miles an hour; during the last war it was seldom that we saw a plane that could do more than 150 miles an hour. Our long-range bombers and patrol planes are capable of sustained flights of over 24 hours, with large crews and complex missions. Night operations are extensive, and operations at sea from carriers and other ships are a special consideration. The net result is that the stress encountered in flying has greatly increased; in fact, modern aircraft performance has come to exceed the capacity of the human element at the controls.

The Navy is turning to great advantage the fine work that has and is being done by the officers and men attached to the Diving Unit at the Washington Navy Yard. Behnke has proved beyond the shadow of a doubt that the same problem that meets the diver, that is, that of bends, is the same as that of aero-embolism which the aviator sometimes encounters in the higher levels. We know now that we are able to overcome the bends, and when we can find a satisfactory supply apparatus for the pilot and other members of a ship's crew, the hazard of aero-embolism will be speedily eliminated.

The Navy has engaged the assistance of the U. S. Public Health Service Research Laboratory at Bethesda in the studies on oxygen supply apparatus and aero-embolism. We have conducted extensive field studies at the Air Station at Pensacola, under the direction of Dr. McFarland of the Harvard Fatigue Laboratory. This work was done under the joint sponsorship of the National Research Council and the Navy.

We in the Navy have been doing dive bombing for a period of fourteen to fifteen years, and here again we have much to learn. Dive bombing and other aerial maneuvers in high speed planes subject the pilot to tremendous stress of five or six times normal gravity. This means that a pilot is subjected to five or six times his weight. Under these conditions he is helpless to a great degree. The important effect is upon the circulation, resulting in inadequate blood supply above the heart level and a resulting failure of vision, blackout, and even temporary unconsciousness if sustained. This is an important matter requiring the most serious consideration.

The subject of fatigue must be vigorously attacked. I feel that the man who solves this question and tells the professional world what fatigue is will have done an untold service to mankind.

The most disturbing problem we face in active aviation today is that resulting when the mental stability of the pilot becomes unsettled. This calls for the most careful and diplomatic handling, and unless the symptoms are apprehended in the very early stages most serious complications result. We are now making a very definite attempt to find proper means of evaluating the actions and symptoms of our pilots who are under the strain of combat flying. We know what the British are going through and we know that a tremendous number of men have been sent away from active duty, never to return, because of the inability of the medical profession to return them to a normal state.

We are investigating the proper type of recreational facilities that should be provided for the pilot when he is on active duty and when he is in the recreational area. We are going further than this. We are looking into the subject of convalescent hospitals, which will not be hospitals as we understand them, but rather on the lines of a summer hotel where the aviators will be under the common-sense supervision of medical officers properly trained and equipped to handle this delicate work.

Extended night operations have stressed the importance of good night vision and have, therefore, laid open the whole question of dark adaptation in the selection of pilots for this work, particularly with regard to standards for selection of personnel and improvement in the cockpit illumination. Since night flying and night bombing are of such great importance in warfare today, this is a lively topic.

Because in the past certain eye diseases were due to vitamin deficiencies, and are today for that matter, some individuals thought that by crowding certain of these vitamins into the aviator he would immediately see much better in the dark. We are going ahead with studies on dark adaptation and in conjunction with civil organizations have established certain interesting facts. I think I can safely say to you this afternoon that the vitamin theory is of very little use in helping a man to see better at night.

We have a great deal to learn about the close relationship between general reaction time, depth perception, and the part peripheral vision plays with these two. I hope to see work carried out whereby these three things are linked together, since it will go a tremendous distance in making the pilot much more efficient in aerial combat.

Lastly, and important, we have established and are operating a school of aviation medicine at Pensacola, Florida, where we train our flight surgeons. Our syllabus of training is unique and I think well adapted to the best results. Briefly, the course for flight surgeons extends over a period of about five months. It consists of three parts. Part one is of two months' duration and devoted to indoctrinal flight training, in such manner that the student passes through an abbreviated experience in all phases of flying prescribed for a naval aviator. The object is not to train the student to fly, but to enable him to experience at first hand the stress encountered in flying. Phase two is entirely devoted to the subjects of aviation medicine and is of two months' duration. Phase three consists of one month of practical work and indoctrination. By these means we are trying to place with our air forces trained personnel who are best qualified for their duties. In each command there is provided one set of flight orders for the flight surgeon to enable him to maintain a close contact with his flying personnel and to be of maximum service to the organization.

From this very brief outline it must appear to you that the medical officer who selects aviation medicine as his specialty is taking on a varied number of activities all bound up by one common band, the object always being to increase the efficiency of the pilot. The field is too great for any one man to be able to do all of the things necessary in aviation medicine in a way that we would expect an expert to do them. The goal, then, that the Navy Medical Corps is setting is to find itself with an active group of young medical officers who will be competent to handle all of the problems in the operating side of aviation. To this group we will add competent specialists in the fields of physiology, psychology, psychiatry, and the other highly specialized sciences that go to make flying safe. Rational administration of research in allied fields can and will be done. I can think of no more interesting part of the military services than this field I am discussing this afternoon, and to the younger doctors who are at this Assembly I can offer no better advice than that you select aviation medicine as an objective when you find you can give some of your time to the Army or the Navy. There will be room for all in our greatly expanded field.

Synthetic vitamin K and tuberculosis. The possibility that synthetic vitamin K may be an addition to the armamentarium in the control of hemoptysis in certain cases of tuberculosis of the lung is suggested by R. F. SHEELY, M.D., White Haven, Pa., in *The Journal of the American Medical Association* for November 8, 1941, as the result of investigation of the prothrombin or blood clotting factor in patients with this complication.

Dr. Sheely says that the incidence of hemoptysis has been reported as ranging from 20 to 80 per cent and that one physician found that 33.8 per cent of 1,000 patients admitted to a sanatorium because of tuberculosis of the lung had the condition before discharge or death. Vitamin K is known as the antihemorrhagic vitamin.

In 106 cases of pulmonary tuberculosis, the prothrombin concentration in the blood was studied by Dr. Sheely. A significant deficiency of prothrombin was found in 51 of the patients, the concentration being less than 59 per cent of normal. Fifty of these had far advanced disease.

"The status as to prothrombin level appeared to coincide with the clinical and roentgenologic status of the majority of the patients," he reports.

"It is suggested that the prothrombin concentration should be determined in every case of hemoptysis in pulmonary tuberculosis. In 4 cases of frank hemoptysis with associated prothrombin deficiency, the elevation of the blood prothrombin level on the administration of vitamin K, orally and parenterally, was a likely factor in the control of hemoptysis."

PRESIDENT'S PAGE

MEETING HEALTH NEEDS

What is the true status of the nation's health? Have we, as a people, deteriorated physically? If so, why has this situation come about? And what is the remedy?

These and similar questions have doubtless arisen in the minds of thousands of thinking citizens because of the large percentage of rejections for military service due to physical defects. With no intention of minimizing recent disclosures, I believe there are certain facts that the public should know.

Physical requirements of the Army and Navy were never as high as they are today. Thousands of young men are rejected for defects which in no way interfere with their everyday activities. For example, defective vision has been one of the chief disqualifying causes. There is usually nothing disabling about the lack of normal vision in civil life. The same applies to a certain degree to the matter of teeth.

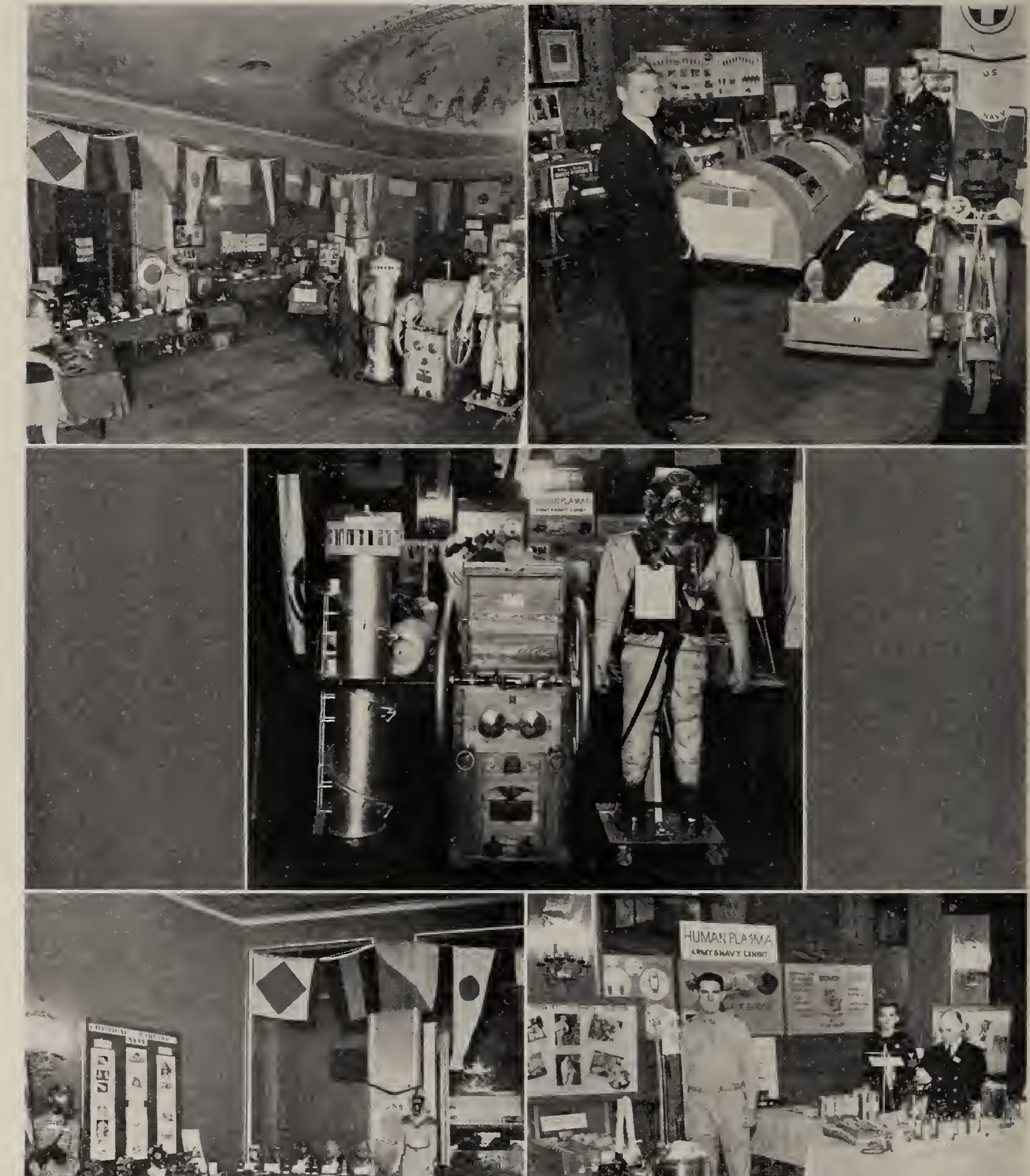
Now it is not my intention to suggest that there is not room for improvement of the health of our people. On the contrary, the medical profession recognizes the real need for wider application of preventive procedures and believes that they should be more readily available to larger numbers of our population.

The attention of our Medical Society has recently been focused on periodic health examinations. The Committee on Public Health recently submitted a program to be carried on in the District in coöperation with official and voluntary health agencies and civic groups. Approved at the Society's last business meeting on November 5, the program will be inaugurated as soon as consideration has been given details incidental to its operation.

It is my feeling that if the Periodic Health Examination Program is to be successful, the Society should proceed slowly, because many factors are involved, not the least of which is that physicians must familiarize themselves with the type of examination to be given and be fully cognizant of the importance of doing it efficiently. This is an exceedingly important step toward improving the health of the people in Washington, and everything possible must be done to insure its success.

I have every confidence in the leadership of the Committee on Public Health and I am certain that the Committee will receive the wholehearted support of our membership.

Henry R. Schreiber


US
NAVY
HUMAN PLASMA
ARMY & NAVY EXHIBIT

Views of the Military Exhibit
13th Annual Scientific Assembly

EDITORIALS

MEDICINE IN NATIONAL DEFENSE

One of the outstanding features of the 13th Annual Scientific Assembly was the session devoted to "Medicine in National Defense." Not only were the speakers nationally known in their respective fields, but their subjects were of unusual and timely interest. The editors of the Medical Annals, therefore, decided to publish several of the papers presented in this issue, which has been designated the "National Defense Number."

A reading of the scientific section discloses the important role of medicine in the defense program. Admiral McIntire describes most interestingly the research work being done in aviation medicine, and relates how schools in this new branch of medicine are being established. Mechanical progress, he says, has outstripped scientific knowledge, therefore the urgent need for intensive investigation. Modern methods adopted by the Army for the care of the sick and wounded are reported by General Magee. Mechanization has presented many problems for the Medical Corps. Facts disclosed by Selective Service examinations, as reported by Colonel Rowntree, are of especial interest. So also are the views expressed by Dr. Draper, of the United States Public Health Service, in regard to the number of rejections by Selective Service because of physical defects. Finally there is the medical phase of civilian defense. Mayor LaGuardia, U. S. Director of the Office of Civilian Defense, expresses opinions which in some respects are at variance with those of the medical profession. However, his address is significant because it deals with matters of vital importance to physicians.

Those of us who live in Washington have an opportunity of observing at first hand the operation of agencies charged with the responsibility for the defense program. What we see is not too encouraging. To begin with, there are too many agencies having to do with health. Not infrequently there is overlapping of effort. Plans are hastily conceived, adopted and abandoned with resulting confusion and delay.

All eligible young physicians who can qualify are being ordered into military service, so that few are now going into private practice. In consequence, there are communities which have been deprived of the services of a physician. Increasing demands are also being made upon physicians now in private practice by numerous Government agencies. They are being called upon to do so much volunteer work that in many instances they are overburdened. This is particularly true of general practitioners who must be available to their patients at all hours of the day and night.

The need for reorganization and coördination is clearly indicated. A step in this direction is being taken by the Health and Medical Committee of which Dr. Irvin Abell is Chairman. The Committee has created a special commission to study a program for the procurement and assignment of physicians needed by the various official health services. The commission will investigate the requirements of all services and formulate some plan to assure better distribution of physicians. Although no official announcement has been made, it is reported that an agency to supervise all Government health services is under consideration.

Despite the shortcomings now existing in the health program, encouraging progress is being made, especially in the military services. The articles appearing in this issue of the MEDICAL ANNALS are evidence of this fact.

MAINTAINING PHYSICAL FITNESS

In an editorial entitled, "See Your Doctor," which appeared in the *Washington Post* on October 6, physical defects disclosed by Selective Service examinations were described as "an appalling record and should effectively dispel illusions about the Nation's good health."

> "Many of the men examined would, of course, have been found unfit regardless of periodic medical check-ups. But there were thousands of others who, if their ailments had been noted and prescribed for in time, could have met Army health standards. Such, at least, is the testimony of the Medical Department of the Army, some members of which publicly advocate compulsory physical examinations.
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> "Their suggestion has much to recommend it, for it has been and will probably continue to be impossible to get the average person who 'feels fine' to visit a physician of his own volition. In the public mind the services of the medical fraternity are to be used only as a last resort. And for this, high fees and a very human disinclination to seek medical care unless forced to are to blame. . . .
>
> "Whether or not such tests become compulsory—for in the final analysis health is largely a personal affair—common sense dictates greater coöperation between the individual and the doctor or dentist if we are ever to have physical wellbeing on a truly national scale. And this implies, of course, widespread extension of public health services."

In general the profession will agree with these views. If such comments by newspapers convince a substantial number of people of the value of periodic health examinations, a good cause will have been served. The American Medical Association and a number of state and county medical societies have long advocated periodic examinations. Numerous methods of stimulating public and professional interest have been tried but little progress has been made. Reasons for this are numerous. To begin with, there has been apathy on the part of the public, largely because it is uninformed. Fees have not been a major deterrent although there are undoubtedly many persons who will not make what they consider an unnecessary expenditure for medical attention. The fact of the matter is that even where periodic examinations have been made available without charge, individuals who were entitled to them have not taken advantage of the opportunity. Insurance companies which offer their policyholders free examinations have found comparatively few who are interested enough to go to their physicians once a year.

In the foreword of the Periodic Health Examination Manual for physicians, published by the American Medical Association, appears this statement:

> "The principal adult groups among whom medical examination in health is practiced at least occasionally, if not regularly, include individuals whose life insurance policies provide for or require such examinations and employees of industrial concerns having health maintenance programs. In certain occupations, notably aviation, transportation and hazardous industries, and in medical and nursing organizations and in hospitals,

examinations are conducted largely for the benefit of persons other than the ones examined. This is to provide a safeguard against personnel failure due to preventable disease or to guard the organization against liability to its employees for industrial accidents or disease.

"The small number of exceptionally enlightened individuals who make the periodic health examination an habitual practice, cannot even be approximately estimated. It can safely be stated to be inconsequential in comparison with the adult population of the United States."

The Manual finds that the lack of interest in periodic health examinations is not entirely due to public indifference. As a matter of fact, reports received at the office of the American Medical Association indicate that physicians, generally speaking, are not interested. "For almost twenty years this situation has existed and the time has come when physicians must either adopt the periodic health examination and perform it on their own initiative or relinquish the field to public health and commercial agencies."

Writing in the October 15 issue of the *New York State Journal of Medicine*, Dr. McIver Woody of New York City says:

> "Perhaps we doctors are at fault. It is well to recognize that we tend to be fatalists as far as our own health is concerned. We are tolerant toward the medical student who fancies that he has contracted every dread disease he comes across in his textbooks, but when we graduate and become responsible for the welfare of others, we put away childish things and think of ourselves no longer. We close our eyes to the possibility that we ourselves may not be wholly sound. We ignore fleeting discomfort in the left chest and arm, we seldom test our urine for sugar and we seldom take our blood pressure. Until we come to believe in the periodic examination for ourselves we cannot expect to convince our patients that it is worthwhile for them to be examined at regular intervals. Until we ourselves are willing to be examined annually by some colleague in whose wisdom we have faith and confidence, we cannot speak with real conviction on the subject."

The Society's Committee on Public Health recently recommended the adoption of a Periodic Health Examination Program. The Executive Board has given its approval and the program will be submitted to the Society for its consideration at the business meeting on November 5. If it is adopted by the Society and given support by physicians and the public, a real step forward in preventive medicine will have been taken in the District of Columbia.

The Committee has recognized that examinations must be standardized and has developed a form, which will be available to members of the Society at cost. A fee of $5.00 for an examination has been recommended, so that no one will feel reluctant to visit his or her physician. Provisions have also been made in the program for those who cannot pay for medical services.

Our Society can benefit from the experience of other organizations which have undertaken a similar project. Time and time again the need for the education of the public to the value, the limitations and the need for periodic health examinations has been demonstrated. The Society, if it enters upon this undertaking, must do so with the intention of carrying out a long range program in which official and voluntary public health agencies in the District of Columbia, as well as the medical profession, will cooperate. By planning and working together these groups can, over a period of years, accomplish in the District what has not been found possible elsewhere.

PERTINENT PARAGRAPHS

October Meetings The first month of the organization year proved to be a busy one. Not only were boards and committees active, but scientific sessions also got under way. The following meetings were held:

October 6 Committee on Cancer Control
October 8 Scientific Meeting of Society

October 13	Section on Gastroenterology
October 14	Medical Bureau Committee
October 15	Scientific Meeting of Society
	Board of Censors
October 16	Subcommittee on Venereal Diseases
	Section on Neurology and Psychiatry
October 17	Committee on Military Affairs
	Section on Pathology and Laboratory Medicine
October 20	Sports Committee
	Obstetrical Board
October 21	Medical Bureau Committee
October 22	Scientific Meeting of Society
October 24	Committee on Public Health
October 27	Subcommittee on Maternal Welfare
	Obstetrical Board
	Executive Board
October 29	Scientific Meeting of Society
	Subcommittee on Child Welfare
October 30	Section on Pediatrics

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American Youth Commission Endorses Health Insurance

Urging the need for universal health insurance in the United States, Mr. Owen D. Young, Chairman of the American Youth Commission, speaking in Washington on October 9, said that public interest is shown by the large number of private health insurance plans, "never adequate and generally unsatisfactory," which find eager customers. "If America is to be the last country in the world to adopt health insurance," Mr. Young says, "it should also be the one to do it best."

Although a majority of the medical profession do not believe that compulsory health insurance will solve the nation's health problems, they will agree that if new methods of providing medical care are desirable, they should be the best that can be devised. One finds the statement, that "eager customers" seek private health insurance, rather amusing in view of the experience of insurance companies and sponsors of non-profit medical service plans. Certainly none has so far been overwhelmed by those desiring to participate.

Six specific points on which the American Youth Commission has found public health authorities in general agreement are:

1. Any system of health insurance should include free choice of physician by the patient (subject, of course, to the consent of the physician) and the same individuality of relation between patient and physician that now exists, with the single exception of the manner of paying the bills.

2. Cash benefits, to cover a part of wages lost by employed persons, should be an integral and inseparable part of the system. This is the case now with workmen's compensation and is universal in the health insurance systems of the world. Considering illness as a social problem, and not merely as a medical one, it is as vital to provide shelter and food as it is to pay for the doctor and medicines.

3. The cost should be assessed and collected, as other social insurance costs are met, from the beneficiaries, from the employing industry, and from the state.

4. The medical part of the administration should be conducted as far as possible by medical men, with only such oversight by them of the individual physician as universal experience has found necessary and acceptable. The whole system should be divorced from politics, partisan or medical, and should be open to all legally qualified physicians wishing to practice under it.

5. Physicians should be paid from the insurance fund, either by separate fees for each service rendered or by an annual sum for each patient choosing that physician. While American physicians generally at present would prefer the fee system, the other system has been found more satisfactory in most countries.

6. The system should be obligatory for approximately the same group for which workmen's compensation is now compulsory.

Quoting from the Commission's report, Mr. Young said:

"Health insurance need not be costly to the Federal Government. Workmen's compensation is now self-supporting. The cost of the medical part of health insurance, confined as it should be to those who are normally self-supporting in other respects, is within the financial capacity of its beneficiaries and their employers (who also benefit), with a contribution from the state which may or may not be limited to the costs of administration."

Strengthening of preventive and protective health measures were also urged. These included provisions for sanitation and disease control. In regard to the need for health education, the report says:

"There is no department of life in which broad services of adult education are more needed than in matters of health. Children and young people are frequently the victims of the ignorance of their parents and of the false traditions of their communities."

Mr. Young observed that more than one third of the families of the nation were living on diets that are grossly inadequate for their basic needs, though deficiency diseases in many parts of the country result quite as much from wrong eating habits as from poverty.

"For millions of families, however, education about nutrition alone will not have much effect upon faulty nutrition," the Commission's report continues. "Most of these families do not have income enough to purchase an adequate diet."

Members of the American Youth Commission addressed by Mr. Young were:

Henry I. Harriman, Vice Chairman of the Board, New England Power Association; Will W. Alexander, Vice President, Julius Rosenwald Fund; Dorothy Canfield Fisher, Author; Willard E. Givens, Executive Secretary, National Education Association; George Johnson, Director, Department of Education, National Catholic Welfare Conference; Mordecai W. Johnson, President, Howard University; Chester H. Rowell, formerly Editor, San Francisco Chronicle; William F. Russell, Dean, Teachers College, Columbia University; Henry C. Taylor, Director, Farm Foundation; George F. Zook, President, American Council on Education; Floyd W. Reeves, Director, and Paul T. David, Associate Director, American Youth Commission.

Others present were Flora Rhind, General Education Board, and C. S. Marsh, Vice President of the American Council on Education.

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Hawaii Medical Journal

The initial number of the *Hawaii Medical Journal*, a copy of which has been received at the Society's office, was published in September. The *Journal*, from the standpoint of appearance, is unusually attractive. The typography and the quality of paper used are excellent. The scientific section is made up of several brief articles which cover a wide field. It is interesting to note that in far-away Hawaii the medical profession is confronted with the same economic problems that are to be found here in the states. Medical preparedness is also a subject of interest to the profession in Hawaii. A section of the *Journal* is devoted to it.

Dr. Lyle G. Phillips is Editorial Director of the *Journal* and Dr. Harry L. Arnold, Jr., its Editor.

The MEDICAL ANNALS extends its congratulations to the Hawaii Territorial Medical Association on its new publication.

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Danger of Epidemics in Europe

Writing from Bern, Switzerland, in July 1941, David M. Nichol, foreign correspondent, said:

> "Europe, as it nears its third year of war, is approaching in the next winter a critical period when the twin threats of hunger and disease are expected to assume dangerous proportions for the first time in this conflict.
>
> "Health experts, anxiously watching the fluctuations in the limited and generally unsatisfactory statistics which still are available, admit the existence of 'ideal' epidemic conditions and express some surprise that the outbreaks already, so far as they can be detected, are relatively few.
>
> "And just as in the last war, when it required two years for hunger to make itself apparent in the general health standards of Europe's peoples, so now the signs of malnutrition are becoming evident and are expected to increase.
>
> "Isolated disease figures are of little value to the laymen and even the experts are having their troubles. Not actual numbers so much as soaring, unseasonal rises in mortality rates are the signs for which the health detectives search. But mortality rates require accurate population statistics and these are as uncertain in Europe today as tomorrow's breakfast."

According to reports now being received in this country, the looked-for outbreak of disease in Europe is becoming a reality. Cholera and typhus especially are taking many lives.

According to Mr. Nichol, "Two factors mitigate against any such widespread outbreaks of disease, particularly of typhus, as occurred during the last war. One is the development of vaccines which provide either temporary immunity or greatly reduce the mortality. Both Germany and Italy are preparing these in large quantities. The other is the control of most of Europe by an iron-handed police power in the German Army and health authorities, which is perfectly capable of taking and will not hesitate to take any measures which may appear necessary, from compulsory vaccination of every one it can reach, to complete and total segregation of entire areas, simply leaving the population to die."

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Four Physicians Who Made History

On a recent radio "quiz" program the question was asked, "How many signers of the Declaration of Independence were physicians?" It would be interesting to know how many physicians know the answer. Well, here it is. There were four.

Dr. Lyman Hall, a graduate of Yale University in 1747, was ordained a minister and later practiced medicine in Connecticut, South Carolina and Georgia. He was an ardent advocate of the Revolutionary cause and became a delegate to the Continental Congress. He was elected Governor of Georgia in 1783.

Dr. Benjamin Rush attended the College of New Jersey (now Princeton), graduating in 1760. He studied medicine under Dr. John Redman from 1761 to 1765, also attending the lectures of Dr. William Shippen and Dr. John Morgan in the College of Philadelphia, completing his medical education in Edinburgh in 1768. He returned to Philadelphia and began the practice of medicine. He became a member of the Continental Congress, and in April 1777 was appointed Surgeon General of the Armies of the middle department. A member of the staff of the Pennsylvania Hospital, he established the first free dispensary in the country in 1786. He was Treasurer of the United States Mint from 1797 to 1813 but later devoted himself entirely to his practice and teaching.

Dr. Josiah Bartlett was born in 1729, and began the study of medicine at the age of 16 in the office of a distant relative, Dr. Ordway. Five years later he established a practice in New Hampshire. He was not only a physician but was active in public affairs, being elected Governor of New Hampshire and later Chief Justice of the Supreme Court of that state.

Dr. Matthew Thornton emigrated with his parents to America about 1718, settling first in Maine and later near Worcester, Massachusetts, where he studied medicine. In 1740 he began practicing in Londonderry, New Hampshire. Later he established his home in Connecticut. Giving up his professional practice he became active in political affairs.

It is significant that few physicians today are outstanding figures in public affairs. At present there are only a handful of physicians in Congress, there being no Senators and less than a dozen Congressmen who are doctors of medicine. As has been emphasized by many who have commented on this subject in recent years, the country needs the public leadership which physicians are qualified to give.

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Handbook on Medical Service Plans

The Ohio State Medical Association has just issued a Medical Service Plans Handbook containing recommendations to its component societies "as to proper procedure for starting voluntary non-profit medical care plans under the provision of the Ohio Enabling Act."

Procedures for the establishment of medical service plans are set forth. These are specific and complete. Included also is the resolution adopted by the House of Delegates relating to the Ohio Enabling Act and a copy of the Act itself.

A valuable feature of the handbook is the "must" and "optional" reading list. The list includes books and articles on medical economics from every point of view.

The handbook, which is being provided the president and secretary of each county society, shows the care and thought that have gone into its preparation. The Ohio State Medical Association is to be commended for a task well done.

Second Annual Physicians' Golf Tournament

Despite frequent showers and generally threatening weather, 38 physicians played in the 2nd Annual Physicians' Golf Tournament which was held at Burning Tree Country Club on October 23. Prizes were awarded to the following:

Low net	Dr. Frank M. Hand	70
	Dr. George K. Nutting	72
	Dr. Paul Putzki	86
Low gross	Dr. Howard Smith	81
	Dr. Don Johnson	84
Lowest score on any hole	Dr. Leo B. Gaffney	
Highest score on any hole	Dr. George R. Huffman	
Most birdies	Dr. William H. Jenkins	
Most pars	Dr. Hayden Kirby-Smith	
High net	Dr. Allan E. Walker	

Drawing for prizes were Drs. R. Lomax Wells, Howard H. Strine and F. X. McGovern.

The following firms donated prizes:

Marion S. Alley
Beuchler's
Coca Cola Company
Dy-Dee Wash
Gibson Company, Inc.
Gilman Drug Store
Hysong's Funeral Home
Kenesaw Drug Store
Kloman Instrument Company
Luzier's
Maxwell & Tennyson
Medical Credit Association
Peoples Drug Stores
Lewis & Thomas Saltz
Service Pharmacy
Southern Oxygen Company
John H. Wilkins Company

Participants in the Tournament were:

Drs. Fred S. Avery, William G. Ballinger, Norvell Belt, Harry L. Claud, Frank J. Eichenlaub, Leo B. Gaffney, Frank M. Hand, Clayton Hawfield, James Hawfield, Russell K. Hollingsworth, Hugh O. House, George R. Huffman, William H. Jenkins, Don Johnson, James P. Kane, Robert A. Keilty, Joseph V. Kennedy, Hayden Kirby-Smith, Harvey F. Kreuzburg, Arthur B. Little, F. X. McGovern, Preston A. McLendon, Richard J. McNulty, James M. Moser, George K. Nutting, Philip O. Pelland, John F. Preston, William S. Puryear, Paul S. Putzki, Joseph P. Shearer, John J. Shugrue, Howard L. Smith, Richard L. Spire, Walter R. Stokes, Howard H. Strine, Walter Sullivan, Allan E. Walker, R. Lomax Wells, Mr. Theodore Wiprud and Mr. William Wright.

Members of the Committee on Sports in charge of the event were: Dr. George R. Huffman, *Chairman;* Drs. Alfred H. Richwine, Richard J. McNulty, Harry Ford Anderson, Frank R. Shea, Clayton Hawfield, William G. Puryear, Emmett G. Coiner and Howard L. Smith.

MEETINGS

Wednesday, December 10

The District of Columbia Tuberculosis Association has arranged the following program under the auspices of the Society's Subcommittee on Tuberculosis:

"Differential Diagnosis in the More Common Chest Diseases." GEORGE G. ORNSTEIN, M.D., F.A.C.P., Associate Professor of Medicine, New York Medical College, and Associate Clinical Professor of Medicine, New York Post-Graduate Medical School, Columbia University, New York. Special exhibits. Refreshments.

Wednesday, December 17

The Section on Neurology and Psychiatry will present the following program:

"Differential Diagnosis between Hysteria and Organic Cerebral Disease," illustrated with motion pictures. LEO ALEXANDER, M.D., AND RICHARD S. LYMAN, M.D., Duke University, Durham, N. C.

Wednesday, December 24 and 31

No meeting.

MEDICAL PREPAREDNESS SECTION

Methods by which the rehabilitation program could be made effective were discussed at an all-day conference held on October 17 at National Headquarters of the Selective Service System in Washington. The conference was called by General Lewis B. Hershey, Director of the Selective Service System, and presided over by Col. Leonard G. Rowntree, Chief of the Medical Division.

Present were the following representatives of various Government departments, medical organizations and health agencies:

American Medical Association: Dr. Frank H. Lahey, President, Dr. Olin West, Secretary, and Dr. Morris Fishbein, Editor of the *Journal*; American Dental Association: Dr. Gerald D. Timmons, Executive Secretary and Dr. Lon W. Morrey, Director of the Bureau of Public Relations; Dental Corps of the U. S. Army: Brig. Gen. Leigh C. Fairbank; U. S. Public Health Service: Dr. James A. Crabtree; American Hospital Association: Dr. Winford H. Smith; National Research Council: Dr. Edward H. Cushing; medical schools and clinics: Dr. William C. Rappleye; U. S. Army: Col. George F. Lull, Col. Charles C. Hillman and Col. John W. Meehan; U. S. Navy: Capt. Stephen R. Mills; National Medical Association: Dr. John W. Lawlah; D. C. Selective Service System: Col. A. Clagett Gray, State Medical Officer; Medical Society of the District of Columbia: Mr. Theodore Wiprud, Secretary; and the official staff of National Headquarters of the Selective Service System.

The conference considered at length the recommendations of President Roosevelt in regard to rehabilitation, especially as to what might be required in the fields of medicine, surgery and dentistry. The manner of securing efficient men in their respective specialties to perform necessary medical, surgical and dental work was discussed but no final decision was made. It was agreed that rejected selectees suffering from dental defects and acute venereal diseases lent themselves most readily to rehabilitation.

The question was raised as to funds to pay for rehabilitation. General Hershey stated emphatically that funds would be forthcoming and would be available in the near future.

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The appointment of Dr. John A. Reed as Chief of Emergency Medical Service for Civilian Defense in the District of Columbia was announced on October 31 by the Honorable J. Russell Young, President of the District Board of Commissioners. In accordance with instructions contained in Bulletin No. 1 issued by the Medical Division of the Office of Civilian Defense, Dr. Reed's first official duties will be "to make an inventory of the community's medical resources and facilities, and to prepare local plans, develop an organization, and provide for the training of personnel to carry out the functions of the Emergency Medical Service. . . ."

A Medical Advisory Council remains to be appointed. It is suggested by the Office of Civilian Defense that the Council "include the local health officer, an experienced hospital administrator, a physician recommended by the local medical society because of his technical experience and executive ability, a registered nurse, and a representative of the American National Red Cross and other voluntary agencies."

Further details in regard to the local organization will appear in an early issue of the MEDICAL ANNALS.

●

Response to the appeal of the Committee on Military Affairs for physicians to make physical examinations of volunteer fire fighters has brought satisfactory response. On November 6, thirty-five physicians had signified their willingness to aid in this work.

Several hundred fire fighters will be assigned to auxiliary units of regular fire department companies. Physical examinations must be made of all volunteers and it is proposed that they be examined in small groups of fifty to one hundred by teams composed of four physicians, one surgeon and three medical men. Examinations will be held at the Police and Fire Clinic on evenings to be set aside for this purpose.

This is the first request for medical assistance which has been received by the Medical Society from the District of Columbia Defense Council.

●

Plans for establishing a school for the training in First Aid of all individuals who have registered for service under the Office of Civilian Defense have been announced by the District of Columbia Chapter of the American Red Cross.

NEWS AND PERSONALS

The Salmon Committee on Psychiatry and Mental Hygiene of the New York Academy of Medicine announces that Dr. R. D. Gillespie, chief psychiatrist for the British Royal Air Force, will deliver the first of the Salmon Memorial Lectures at the New York Academy of Medicine, November 17 and 18. His subject will be "Psychoneuroses in Peace and War and the Future of Human Relationships." Dr. Gillespie was granted leave of absence from the RAF by the British government, at the request of the Salmon Committee, to report to the American medical professions his first-hand observations on the psychologic effects of "blitz" warfare on armed forces and civilian populations. Dr. Gillespie will also deliver lectures in a number of other cities in this country and Canada, among them Philadelphia, where he will speak November 30.

The American Association for the Study of Goiter again offers the **Van Meter Prize Award** of $300 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association, which will be held in Atlanta, Georgia, June 1, 2 and 3, providing essays of sufficient merit are presented in the competition.

The essays, not to exceed 3,000 words in length, may cover either clinical or research investigations, and must be presented in English, typewritten and double-spaced. Manuscript should be sent to the corresponding secretary, Dr. T. C. Davison, 478 Peachtree Street, Atlanta, Georgia, not later than April 1. The essay will be published in the Annual Proceedings of the Association, and may also be published in any journal selected by the author.

The Society's Sectional meetings began in October. **The Section on Gastroenterology,** which met October 13, was addressed by Dr. J. H. St. John, who spoke on "Differential Characters of the Amoeba of Man in Culture." At this meeting officers were elected for the coming year, as follows:

Dr. William Earl Clark, *Chairman;* Dr. Fred A. J. Geier, *Vice Chairman;* Dr. Robert S. McGrath, *Secretary-Treasurer.*

The Section on Neurology and Psychiatry has met twice. At the first meeting, October 16, two papers were read: "Modern Approach to Child Guidance Problems," Dr. Leonard M. Dub; "Localization of Cortical Dysfunction by Electroencephalography," Dr. Robert Cohn. The following program was presented on November 6: "Dementia Praecox—Formulation by Kraepelin, Bleuler and Meyer," Dr. Solomon Katzenelbogen; "Acute Encephalopathy—Case Reports," Dr. Robert H. Groh.

The Ladies' Board of the Children's Country Home entertained the **Section on Pediatrics,** October 30. Following a buffet supper the Section held a round table discussion on "Convalescent Care in Childhood," with Dr. Harry A. Ong serving as Chairman. Various aspects of the subject were discussed: "Infant Nutrition," Dr. Lynn Colvin; "Acute Infections," Dr. Hugh J. Davis; "Rheumatic Infections," Dr. William A. Howard; "Behavior Problems," Dr. Charles A. Millwater.

The George Washington University Medical Society, which will meet November 15 at the Medical School, announces an address by Dr. Russell L. Hayden on "Treatment of Anemias." All members of the Society and their friends are invited to attend.

The Washington Academy of Medicine will meet at the Cosmos Club on November 21. Mr. Edward A. Tamm, Assistant Director of the Federal Bureau of Investigation, will speak on "Scientific Aspects of the Detection of Crime."

The Washington-Baltimore Psychoanalytic Society met in Baltimore at the Hotel Stafford, November 8. Dr. Abraham Kardiner, New York City, gave a talk on "Personality and Culture Among the Alor." On December 13 the Society will meet in Washington at the Medical Society's building, at which time Dr. Leo H. Bartemeier, Detroit, will speak on "Modified Psychoanalytic Therapy."

At the October meeting of **the Medical Society of St. Elizabeths Hospital,** Comdr. Eric Liljencrantz, Medical Corps, U. S. Naval Research Laboratory, Bureau of Aeronautics, spoke on "Medical Problems in Selection of Aviation Students."

The Syphilis Journal Club will meet November 27 at the home of Dr. Carolyn S. Pincock, 4000 16th Street, N.W. Mr. Howard Ennes of the Division of Venereal Diseases, U. S. Public Health Service, will present a film, entitled, "Syphilis—Diagnosis and Management."

The Washington Ophthalmological Society met November 3 at the Episcopal Eye, Ear and Throat Hospital. Dr. Thomas H. Johnson of New York, guest speaker, addressed the Society on "Practical Points for the Diagnosis and Localization of Brain Tumors." Dr. James N. Greear, Jr. gave a case report on "Aneurism of the Circle of Willis with Subarachnoid Hemorrhage and Retinal Hemorrhages." Case presentations were made by Drs. Edward J. Cummings, Thomas A. Egan, J. Thomas Schnebly, G. Victor Simpson and Clifford A. Swanson.

Members of **the Clinico-Pathological Society** were guests of Dr. Matthew White Perry, October 21. The program consisted of two case reports, one by Dr. Charles P. Howze on "Papillary Carcinoma of the Kidney Pelvis," and the other by Dr. William B. Marbury on the "Use of Fascia in Hernial Repair."

The Jacobi Society held its first meeting of the year, October 20. Dr. Herbert H. Diamond read a paper entitled, "Acute Non-specific Infectious Group—Aids in Diagnosis and Treatment for the General Practitioner."

The Women's Medical Society met at Doctors' Hospital, November 4. Dr. Emily D. Barringer, New York City, President of the American Medical Women's Association, addressed the group.

The October luncheon meeting of the Health Division of the **Washington Council of Social Agencies** was sponsored by the Mental Health Committee, October 20, with Dr. Paul Ewerhardt serving as Chairman. The topic presented for discussion was "The Need for the Promotion of Mental Hygiene Services as Revealed by the Psychiatric Aspects of the Selective Service Examinations." Discussants were Dr. Winfred Overholser, Superintendent, St. Elizabeths Hospital; Lt. Col. William Porter, Chief of Neuropsychiatric Services, Army Medical Center; and Dr. Harry Stack Sullivan, Consulting Psychiatrist, National Selective Service.

Dr. Walter B. Cannon, Professor of Physiology at Harvard Medical School, delivered the **Smith-Reed-Russell Lecture** at the George Washington University School of Medicine, October 18. Following the address **Dr. Walter A. Bloedorn** entertained in his honor at the Army and Navy Club. The second lecture in this year's series was held November 5, when **Dr. Esmond R. Long,** Director of the Henry Phipps Institute, spoke on the subject, "The Control of Tuberculosis as a Public Health Problem."

The Washington Academy of Surgery has elected the following officers for 1941–42:

Dr. Edmund Horgan, *President;* Dr. Fred R. Sanderson, *Vice President;* Dr. James W. Watts, *Secretary-Treasurer.*

The Georgetown University Medical Alumni Club has elected the following officers for the coming year:

Dr. John F. Brennan, *President;* Dr. William J. Stanton, *Vice President;* Dr. Paul J. O'Donnell, *Secretary.*

Miss Marian G. Randall was appointed Nursing Consultant in the Medical Division of the Office of Civilian Defense, October 8. Miss Randall is on leave of absence from the Henry Street Visiting Nurse Service, New York City, where she is Assistant Director.

Providence Hospital dedicated a new $50,000 dispensary, October 15, consisting of twenty-five separate clinics, equipped with the latest appliances. **Dr. James A. Cahill,** President of the Medical Staff, presided at the dedication, and **Representative Ross A. Collins** of Mississippi gave a brief talk.

Dr. Winfred Overholser and Dr. Errett C. Albritton participated in the program of the 52nd Annual Meeting of the Association of American Medical Colleges, which was held in Richmond, Va., October 27–29. Dr. Overholser discussed "Newer Phases of Psychiatry in Relation to Army Problems," while Dr. Albritton spoke on "Experiment Design and Judgment of Evidence."

Dr. J. B. Gregg Custis delivered an address before the Southern Homeopathic Medical Association and the Pan-American Homeopathic Medical Congress, which met jointly in Louisville, Ky., November 1–3. The subject of his address was "Postoperative Care of Surgery Cases."

Miss Pearl McIver, R.N., of Washington, was named Vice President of the **American Public Health Association** at its meeting in Atlantic City, October 16. **Dr. George C. Ruhland**, District Health Officer, was chosen one of the new councillors, while among those from the District who were elected Fellows of the Association was **Dr. Daniel L. Seckinger**, Assistant District Health Officer.

Dr. James A. O'Keefe, Washington Police Department surgeon, was one of the speakers at the 20th Annual Convention of the International Association of Police and Fire Chiefs in Philadelphia, October 17.

Petrogalar Laboratories, Inc., announces that a change in spelling has been made in their corporate name and product, which will be known as "Petrogalar" instead of "Petrolagar." The new spelling will not affect the formula or quality of the product in any way, according to company officials, but they consider the change advisable to avoid any possible misconception as to the nature of the product. "Because it has never been the intention of the company to imply that agar-agar was used for any other purpose than as an emulsifying agent, the last syllable of the former name has been altered in favor of the new spelling," the announcement stated.

BOOK REVIEW

Doctors Don't Believe It—Why Should You? Facts and Fallacies about Health with Practical Guidance for the Layman. August A. Thomen, M.D. Pp. 384. Price, cloth, $2.50. New York: Simon and Schuster, 1941.

Dr. Thomen presents the layman with a guidebook to health that scientifically "debunks" all the timeworn fallacies which most of us were reared on, from "feeding a cold" to serving "whiskey for snake bite." He then sets forth simple, precautionary measures for the attainment of better health and happier living. His pedantic Question and Answer style is rescued from monotony by the anecdotes and historical facts giving point to his warnings and advice.

The author touches upon practically every one of the frequently encountered diseases of both childhood and adulthood except infantile paralysis. I believe some mention should have been made of this disease, particularly what symptoms when observed should be reported immediately to the family physician.

In view of the present emphasis on nutrition, Chapter One on "Food, Diet and Weight Reduction" is timely and comprehensive. This chapter can be recommended as excellent supplementary reading for high school and college students taking home economics courses.

Another chapter I believe most laymen will find enlightening is the one on cancer. By a simple but apt comparison, he explains the growth of cancerous cells and how malignant tumors differ from benign tumors. He tells the reader what is known about cancer to date, dispelling a great many false beliefs, shows that much to alleviate this disease has already been accomplished and that much more can be accomplished with the proper cooperation of the laity.

A. L. E.

JOHN JOSEPH LYNCH, M.D.
(1898–1941)

Dr. John J. Lynch, Clinical Instructor in Obstetrics and Gynecology at Georgetown University School of Medicine, died October 25, 1941, following a month's illness.

Dr. Lynch was born June 28, 1898 in New Haven, Conn. He came to Washington in 1918, and received his degree in medicine from Georgetown University in 1925. The same year he began practicing medicine in the District.

He had been an Active Member of the Medical Society of the District of Columbia since 1927, with the exception of three years, 1932 to 1935. He also held membership in the American Medical Association, Georgetown Clinical Society, Washington Gynecological Society, and George Martin Kober Medical Society.

Surviving are his wife, Mrs. Angela Lynch, and seven children, John J., Jr., William, Thomas, Mary, Margaret, Ann and Cathleen. He resided at 2132 Wyoming Avenue, N.W.

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1941–1942

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1940–1941

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Dr. Robert Taylor, 1150 Connecticut Ave., N. W., Washington, D. C.
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Dr. Guy Sutton, 128 18th St., S. E., Washington, D. C.
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Dr. Alfred R. Schroeder, Resident, Georgetown University Hospital, Washington, D. C.

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- Dr. Harold E. Ratcliffe. Address unknown
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- Dr. Lee B. Snow, U. S. Army
- Dr. Philip H. Varner, 7202 Connecticut Ave., Chevy Chase, Md.
- Dr. Merton T. Waite, Resident, Garfield Hospital, Washington, D. C.
- Dr. Charlotte F. Walker. Address unknown

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- Dr. Eugene Hartle, 1006 Carroll Ave., Takoma Park, Md.
- Dr. W. Clifford Skinner, 6511 Van Nuys Blvd., Van Nuys, Calif.
- Dr. Ruth Standard, White Memorial Hospital. Los Angeles, Calif.

(*Continued from page 424*)

taken immediately into the military service, placed in a hospital and cured, his time of service to begin after he is cured.

I am in contact with a great many public activities but I am sincere in saying that it is always encouraging to work with the medical profession. We have done a great many things in our city, such as building great bridges and tunnels and skyscrapers, but as I look back and recall all our headaches and heartaches, the greatest source of gratification is our accomplishment in improving the health of the community.

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mental service of the American Medical Association in preparing its roster of the physicians in the United States and the detailed data regarding each. The requirements of national defense have drawn us closer together than ever before. With the better understanding born of working shoulder to shoulder in a common cause we will have laid the best foundation for threshing out our problems in the years to come.

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PRACTICAL POINTS IN THE DIAGNOSIS AND TREATMENT OF EPILEPSY AND MIGRAINE*

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In the United States there are approximately 5 persons with a history of seizures and 50 persons with migraine to each practicing physician. Does the average physician care for this number of patients? He does not. One reason is his defeatist attitude toward these conditions, an attitude which has been communicated to the affected persons and has led them to believe that the doctor can do little or nothing for them. This is the starting point of their weary round of chiropractors, faith healers, and patent medicine vendors. Despoiled of much of their money and hope, only the more persistent return to the medical profession.

The first practical point which I wish to press is a sharp one. The physician who undertakes to treat a person subject to seizures must do so with confidence in his own ability to improve the patient's lot. Needless to say, this confidence must have the underpinning of natural hope and of acquired knowledge. Three areas of medical and popular ignorance need to be filled in before a substantial foundation for enlightened treatment of epilepsy can be built.

EPILEPSY AND MENTALITY

One of the heaviest obstacles to a hopeful outlook on epilepsy is the popular opinion that severe and progressive mental deterioration is a necessary sequela of seizures. As a matter of fact, among more than 2,000 patients seen by neurologists in private and clinic practice, approximately two thirds are mentally normal, and only 12 per cent are so severely affected that their mental defect is immediately recognizable. Deterioration does of course occur, but some of it is preventable. There are five general causes for this deterioration: First, mental defect may be a constitutional trait inherited along with the predisposition to seizures. Second, both the mental defect and the seizures may be the result of an injury to the brain. Third, deterioration may be either an evidence of frequent subclinical seizures or may be the result of violent and long continued cerebral dysrhythmia and of seizures. Deterioration is more common in patients who have experienced grand mal or psychic equivalent seizures. It increases somewhat with the total number of attacks experienced and the length of time. However, nearly one half of extramural patients are mentally normal after 25 years or more of epilepsy. Fourth, a dull mentality may be the result of excessive drug treatment. Fifth, what passes for deterioration may be only profound discouragement because of social ostracism and decline of morale.

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* Read at the Thirteenth Annual Scientific Assembly of the Society, October 2, 1941.

Although mental deterioration when it occurs is a much more serious feature than persistence of seizures, the physician often can forestall further deterioration or even lighten the mental gloom by successful control of attacks, or by wise use of drugs, and by stimulation of activity and morale.

ELECTROENCEPHALOGRAPHY

A discussion of this technic may seem impractical because of its limited availability. The nation's capital city, I believe, does not have an apparatus which is available for the uses of its medical clinicians. The reason is not that the technic is of no great value, but rather, like electrocardiography or roentgenology, electroencephalography requires expensive apparatus and special training on the part of the interpreter of records. In about 75 per cent of persons subject to seizures, neither the history nor the neurologic examination gives a clue as to the cause of seizures. A patient who faces this most devastating of diseases is puzzled and his faith in medicine is shaken when he emerges from a battery of physical and laboratory examinations and is told that "nothing is wrong." Of course something is wrong, and it can be demonstrated in all but a few per cent of the patients examined. This abnormality is a disturbance in the electrophysico-chemical state of the neurones of the brain, which causes them to discharge at an abnormal frequency or voltage. The resulting abnormal electrical waves when recorded are useful in the diagnosis of epilepsy, in the separation of epilepsy and hysteria, and in the earmarking for future study of certain borderline conditions such as psychosis, behavior disorders, and possibly genius. Furthermore, the electrical tests furnish some clue as to the type of seizures from which the patient is suffering (fig. 1), the localization, so far as the cortex is concerned, of the electrical disturbance, the severity of the condition, and probably also the general progress of treatment.

There is a still further use, the value of which has only just been demonstrated. The pattern

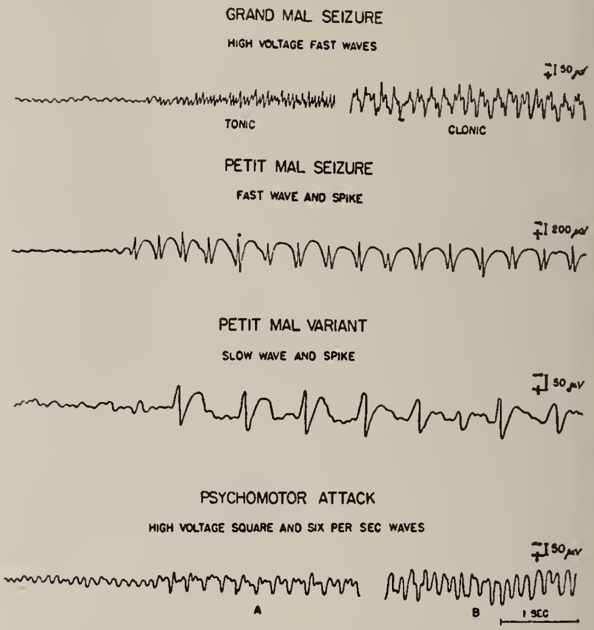

FIG. 1. Electroencephalographic tracings in patients with epilepsy during various types of seizures, namely, grand mal, petit mal, petit mal variant, and psychomotor (psychic equivalent) seizures. In the psychomotor attack, A represents the onset and B a later phase of the seizure. These abnormal patterns may appear either with or without seizures which are clinically observable. In each case the curve represents the difference in potential of the cortex between an electrode attached to the left forehead and one attached to the ear. The signal at the right indicates the deflection caused by 50 millivolts or, in the case of petit mal, 200 millivolts current. The time marked by 1 second is indicated in the right lower corner. (From GIBBS, F. A., GIBBS, E. L., AND LENNOX, W. G.: Arch. Neurol. & Psychiat., 1939, **41**, 1111.)

of the electrical waves emanating from the brain is, within limits, a hereditary trait. Dr. and Mrs. Gibbs and I have recently examined 70 pairs of twins, both normal and abnormal, monozygotic and dizygotic, and with and without cortical dysrhythmia. In general the electroencephalograms of monozygotic twins cannot be distinguished from each other, whereas those of dizygotic twins, especially if of the opposite sex, can be. Also, although only one of a pair of monozygotic twins may have epilepsy, the normal twin also has cortical dysrhythmia. The epileptic twin received some injury to the brain which caused his preëxisting dysrhythmia, which previously was asymptomatic, to become symptomatic. We have also made records of 262 near relatives of epileptic patients. Study of this and other evidence leads to the conclusion that for every person who has epilepsy, there are at least 20 persons who have a disorder of brain waves and presumably are carriers of epilepsy or of some neuro-physiologically related disorder. Probably the electroencephalograph can be used in tracing heredity and in advising patients concerning marriage and children. The Atlas, recently written by F. A. and E. L. Gibbs,[1] gives full details about electroencephalography.

Electroencephalography is but one method of examination. Individual treatment of the patient with seizures is built on careful physical, neurologic and laboratory examination in order to determine morbid conditions which may act as accessory or precipitating factors. In interviewing patients, and in reviewing the history of epileptics discovered by the military draft, I have been amazed at the lack of proper treatment or, in many instances, of any treatment. Even the intelligent and the well-to-do often fail of careful treatment. Recently I saw a physician, a high-standing graduate of Johns Hopkins Medical School and a specialist in a large city, who had had seizures ever since he was in college several decades ago. He believed that he had never been given the examinations which we call routine (neurologic, X-ray films of the skull, spinal fluid examination, blood counts and urine analyses), and the only physician whom he had seen more than once was a psychoanalyst, the modern prototype (so far as treatment of epilepsy is concerned) of the ancient exorciser of evil spirits.

DRUG THERAPY

Physicians at present have the advantage of a drug newly publicized by Putnam and Merritt.[2] This is Dilantin Sodium, the official name of which is "Phenytoin Sodium." In our experience this is the drug of choice for most patients subject to seizures. It is not a hypnotic and it is especially valuable for the control of psychic equivalent seizures and of grand mal. Many physicians who have used this drug have been disappointed. Several conditions have contributed to this disappointment. True petit mal (three-a-second alternate wave and spike dysrhythmia) often is not influenced by Dilantin. Side-effects of the drug, such as ataxia, gastric upset, or hyperplasia of the gums, may limit the amount which can be taken. An even more frequent reason is the timidity of the physician. Beginning with 4½ grains a day, he needs to increase the dose gradually until either seizures are controlled or toxic symptoms appear. A few patients are able to take as much as 9 grains a day. More detailed discussion of drug therapy will be found in the articles of Merritt and Putnam[2] and of Lennox.[3]

In brief, the cardinal elements in successful treatment of epilepsy are (1) confidence on the part of the doctor that he can greatly improve the patient's lot, (2) psychologic and social therapy for the maintenance of morale and mentality, and (3) individualization in the determination of etiologic factors and of therapy.

HELP FROM THE LAYMEN

Epilepsy is important from both the medical and the social-economic points of view, yet has received relatively little help. Millions of dimes have been marching to the assistance of those whose muscles have been paralyzed, but only pennies have crept hesitatingly to the aid of those whose muscles occasionally convulse and who have to carry a burden of social ostracism. Because they are fugitives from public knowledge of their illness, epileptics have not combined in an effort to combat the popular or medical ignorance about their condition. Recently, however, an organization of laymen has been formed called the "Laymen's League Against Epilepsy." Any person may join by paying either $1.00 or $5.00 annually. The office is at 25 Shattuck Street, Boston, Massachusetts. Each member receives the book, "Science and Seizures,"[4] and the $5.00 members receive *Epilepsia*, the journal of the International League Against Epilepsy. Physicians may recommend membership in the Laymen's League to their more intelligent patients as a means of strengthening morale and increasing their coöperation in forward-looking treatment.

MIGRAINE

Although much more common than epilepsy, migraine has received even less attention from research workers. The incentive to investigation has not been so urgent because sufferers from recurring headache are not subject to ostracism or to mental deterioration. A further difficulty is the lack of any suggestive abnormality as a result of physical or laboratory examinations. Electroencephalography is of no use. For the present, migraine may be called an epilepsy of the sympathetic nervous system. The abnormalities of migraine are deeply hidden, principally in the glands of internal secretion, in the sympathetic nervous system, and in the emotional and personality make-up of the individual. Careful ferreting out of these etiologic factors requires time and patience, which is perhaps a reason why treatment is so often unsuccessful and why a patient is more inclined to listen to the wheedling advice of the radio announcer than to make an appointment with his physician.

When he does come, the patient must be asked for a detailed history, which in my experience occupies at least an hour. Careful attention must be given to the discovery of disorders of endocrine glands, of digestion, allergy, nervous strain from eyes or ears, and physical and emotional strain from the pursuit of distant goals.

As for drug therapy, ergotamine tartrate is the only non-sedative drug which seems to have a specific action in headaches of the migraine type. Parenteral injection of 0.5 mg. provides magic relief for individual attacks in approximately 90 per cent of patients. Ergonovine is less effective, but causes less nausea and vomiting and some persons find it will control or abort attacks. Ergot is not a suitable drug for continuous daily medication in the hope of preventing attacks. Main reliance must be placed on the gradual education of the patient so that he will adjust his work and his methods of living to the personality and the nervous system which he has inherited. Details of such treatment will be found in the exposition by Wolff.[5]

The doctor who has time and knowledge and an ability to project himself into the lives of his patients can greatly help the majority of persons who come to him, whether they complain of recurring convulsions or of recurring headaches.

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PROBLEMS ARISING IN THE CHEMOTHERAPY OF PNEUMONIA AND MENINGITIS*†

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Every new method of treatment brings its problems as well as its advantages. "Blitzkrieg" drugs may advance the patient rapidly and far toward recovery, but they expose him to new dangers, and by the very speed and comprehensiveness of their action change the picture of the battle so completely that the physician-strategist is at a loss to tell who is winning and on what front. Such is the story of the treatment of pneumonia and meningitis with the sulfonamides. Accordingly, I should like to discuss some of the problems which commonly arise, in the light of the experience of my colleagues and myself in the Pneumonia Control Program of the District of Columbia and on the wards of the Gallinger Municipal Hospital. The use of these drugs will be considered in the following order:

1. When should the sulfonamides be used?
2. Which drug should be selected for a particular type of case?
3. How should the drugs be used?
4. When should they be stopped?
5. What additional measures should be used in conjunction with the sulfonamides?

The first problem that presents itself is, "When should the sulfonamides be used?" It is common knowledge that these drugs are of value in infections caused by pneumococci, beta hemolytic streptococci, staphylococci and meningococci. They are probably helpful in Friedlaender's bacillus and Hemophilus influenzae infections. The common cold, influenza, and the atypical pneumonias presumably due to a virus or Rickettsiae do not seem to be influenced by any of the sulfonamide drugs. This is apparently true also of benign lymphocytic choriomeningitis, encephalitis, poliomyelitis, and a host of other virus diseases of the nervous system.

The indications for giving the sulfonamides thus become evident. Since pneumococci and hemolytic streptococci cause by far the greatest number of pneumonias, the sulfonamides may be administered whenever there is reasonable evidence that pneumonia is present. A specimen of sputum for typing and some blood for culture should always be collected before the first dose of the drug is given. Then, if specific causative organisms are not found, and if the clinical and roentgenographic appearance of the disease resembles that of the so-called virus or Rickettsial pneumonitis, the sulfonamides may be stopped before they have had much opportunity to cause drug fever or any other complication which might confuse the clinical picture or harm the patient.

The contraindications to the sulfonamides are not as clearly defined. There is no doubt that they should be withheld entirely in the presence of marked liver disease. When anemia, leukopenia, or renal disease are present, it is our practice to administer the drugs cautiously, checking the blood or urine at least once a day and following the clinical condition of the patient very closely.

The sulfonamides are indicated in meningitis when the causative agent is the meningococcus, the pneumococcus, the hemolytic streptococcus, or the influenza bacillus. When meningitis is suspected, a lumbar puncture should be performed immediately, followed by a leukocyte count and a Gram stain of the cerebrospinal fluid. Pneumococci, meningococci, and influenza bacilli can be typed directly from this fluid by the Neufeld technic. If organisms are found, the appropriate sulfonamide may be given at once.

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† Read at the Thirteenth Annual Scientific Assembly of the Society, October 1, 1941.

TABLE 1

Results of Treatment of Pneumococcal Pneumonia with Sulfonamides (1938–1941)

PNEUMOCOCCUS TYPE	SULFAPYRIDINE		SULFATHIAZOLE		SULFADIAZINE		ALL CASES	
	No. of cases	Died	No. of cases	Died	No. of Cases	Died	No. of Cases	Died
I	84	7	12	2	40	2	136	11
II	32	1	4	0	4	0	40	1
III	69	17	3	1	11	4	83	22
V	9	0	4	0	6	0	19	0
VII	45	4	8	0	17	2	70	6
VIII	34	4	7	1	6	0	47	5
Other Types	153	27	47	6	49	6	249	39
Bacteremic Cases (included above)	77	21 (27.3%)	12	4 (33.3%)	17	5 (29.4%)	106	30 (27.6%)
Total Cases	426	60 (14.1%)	85	10 (11.9%)	133	14 (10.5%)	644	84 (13.0%)

TABLE 2

Frequent Toxic Reactions Observed Following the Use of Certain Sulfonamides

TOXIC REACTION	SULFAPYRIDINE (372 PATIENTS)	SULFATHIAZOLE (100 PATIENTS)	SULFADIAZINE (165 PATIENTS)
	per cent	*per cent*	*per cent*
Nausea and Vomiting	21.8	12.0	3.7
Anemia or Leukopenia	4.6	2.0	3.0
Toxic Psychosis	2.7	3.0	2.4
Dermatitis	2.2	12.0	0.6
Renal Lithiasis	1.9	2.0	0.0

This brings us to the second problem: "Which drug should be given?" When the records of the 644 cases of pneumococcal pneumonia treated at Gallinger Municipal Hospital in the past 2½ years are examined (table 1), it is seen that the mortality rates are very nearly the same for each of the sulfonamide drugs used (14.1 per cent, 11.9 per cent and 10.5 per cent, for sulfapyridine, sulfathiazole and sulfadiazine, respectively). On the other hand, table 2 demonstrates that there are marked differences in the percentages of toxic reactions occurring with each of these drugs. Vomiting occurred in 21.8 per cent of the patients receiving sulfapyridine, in 12.0 per cent of those receiving sulfathiazole, and in 3.7 per cent of the ones receiving sulfadiazine. There was practically no difference in the percentage of hematologic complications caused by each of these 3 drugs, and the incidence of delirium was about the same among the patients receiving any of them. Sulfapyridine and sulfathiazole were responsible for the formation of kidney stones in 1.9 per cent and 2.0 per cent, respectively, while no instance of kidney stone was noted among the 165 patients treated with sulfadiazine. The presence of kidney stone was determined by the observation of gross hematuria (or a marked increase in the number of red blood cells seen microscopically), accompanied by pain in the flank and usually by a rise in the blood urea nitrogen. Sulfonamide calculi are usually not visible by means of X-ray films. Dermatitis followed the use of sulfapyridine in 2.2 per cent of the patients and of sulfathiazole in 12.0 per cent. It was observed in only 1 patient who received sulfadiazine.

From the foregoing data, it is evident that the choice of the drug to be used in pneumonia depends not so much upon therapeutic efficiency, since sulfapyridine, sulfathiazole and sulfadiazine are similar in this respect, but upon the toxic reactions anticipated. In view of its low toxicity, I believe that sulfadiazine is the drug of choice in the treatment of pneumococcal pneumonia. Sulfathiazole is to be preferred over sulfapyridine since nausea and vomiting are less frequent when the former drug is used. It must be emphasized, however, that any one of them can be used (1) if another is not available, or (2) if the patient has shown toxic effects from the previous administration of one of the others.

Sulfanilamide and sulfapyridine are both effective in pneumonia caused by the Streptococcus haemolyticus, and although sulfathiazole and sulfadiazine have been tried in only a few cases, they apparently work well also. When a patient is suffering from pneumonia caused by the influenza bacillus or the Friedlaender bacillus, any of the sulfonamides may be tried, although their effectiveness is doubtful.

In meningitis, the choice of drug depends upon its penetration into the cerebrospinal fluid. Sulfapyridine and sulfanilamide are superior to sulfathiazole in this respect. Preliminary studies[1] have shown that sulfadiazine is well absorbed into the cerebrospinal fluid also, and Dingle, Thomas and Morton[2] have reported 13 recoveries in 14 cases of meningococcal infection. It will be interesting to see whether further work will bear out these good results.

The third problem is, "How should the sulfonamides be used?" At present, most people having extensive experience in the use of these drugs believe that they should be administered so as to build up a high concentration in the blood or spinal fluid quickly. In patients with pneumonia, I prefer to obtain levels of 6 mg. per 100 c.c., if possible, in the case of sulfapyridine and sulfadiazine, and at least 4 mg. per 100 c.c. when sulfathiazole is administered. These high levels should be maintained until the temperature has been within normal limits for 3 or 4 days and the patient is clinically well. Then the drug should be stopped completely.

A satisfactory initial dose is 4 grams of sulfapyridine and 6 grams of sulfathiazole or sulfadiazine, followed by 1 gram of any of the drugs at 4-hour intervals, for an adult, and proportional doses for a child, on the basis of body weight. If any of these drugs cannot be given by mouth for any reason, the sodium salt may be administered intravenously in doses of 0.06 Gm. per kilogram of body weight. Subsequent doses cannot be given according to any arbitrary scale, but must be calculated after estimations have been made of the amount of drug in the blood. The sodium salt may be given as a 5 per cent solution in distilled water, but I prefer to use it in 500 or 1,000 c.c. of physiologic saline solution, since in this way the blood level of the drug can be kept high during the time the entire amount of fluid is being slowly administered.

In patients with meningitis, the level of the drug in the cerebrospinal fluid should be kept at 4 mg. per cent or higher. This can usually be accomplished satisfactorily by oral or intravenous administration. After all evidence of the infection has disappeared and the spinal fluid is normal, it is still advisable to continue the administration of the drug for a period of 1 month to make certain that no recurrence occurs. Since several investigators have seen severe cases of myelitis develop from the intrathecal administration of concentrated solutions of the sulfonamide drugs, the sodium salts of sulfapyridine and sulfadiazine, if administered at all, should not be given in any stronger than a 2 per cent solution.

It has been said that a good general knows when to retreat. Likewise, when the competent physician employs powerful drugs, he should be able to perceive instantly when he has gone too far, thus exposing his patient to a toxic reaction, and know when to stop the treatment and apply restorative measures. This represents the fourth problem in the use of the sulfonamide drugs—"when to stop them." The following indications apply both to cases of pneumonia and of meningitis. In the presence of acute hemolytic anemia, or a developing leukopenia, or acute hepatitis—conditions which are often fatal—it is imperative that all sulfonamides be stopped immediately and the complication be treated (table 3). When peripheral neuritis occurs, the use of the sulfonamide employed should be stopped, but it is permissible to change to another sulfonamide. When renal calculi, formed from acetylated sulfapyridine or sulfathiazole, occur, the use of the drug should be stopped immediately and fluids forced. If further treatment is needed, another sulfonamide may be administered, preferably sulfadiazine, if it is available, since no instance of this complication was found by us among 165 cases treated with that compound. Since dermatitis and drug fever usually occur late in the course of treatment, it is usually not necessary to employ another sulfonamide, but it is probably safe to do so if the need requires it. Nausea and vomiting are not serious symptoms. The drug which caused them may be continued or a change may be made if the symptoms cannot be controlled. The indications for discontinuing the drugs when the patient has recovered from pneumonia or meningitis have already been discussed.

TABLE 3

Toxic Reactions Indicating Cessation of Sulfonamide Therapy

TOXIC REACTION	SYMPTOMS AND SIGNS	LABORATORY TESTS	SIGNIFICANCE
Acute Hemolytic Anemia	Pallor and weakness	R.B.C. count	Stop drug immediately. Give no further sulfonamide therapy
Neutropenia or Agranulocytosis	Weakness	W.B.C. count and differential	
Acute Hepatitis	Rapidly developing marked jaundice, increase in size of liver	van den Bergh; Icterus index	
Peripheral Neuritis	Pains, paresthesias, absent or diminished reflexes	None	Change to another sulfonamide if further therapy is needed
Dermatitis	Erythematous, nodular, or urticarial rash	None	
Drug Fever	Continuous or remittent fever	None	
Renal Calculus	Hematuria, flank pain, usually retention of urea	Urinalysis	
Nausea and Vomiting	Nausea alone, or with vomiting	None	Continue same drug, parenterally if necessary, or change to another

The fifth problem introduces the question: "What measures should be used in conjunction with sulfonamide therapy?" In the first place, it must be emphasized that the patient is being treated, not merely a mass of bacteria lodged in an inaccessible organ. Supportive and symptomatic treatment, including oxygen therapy, relief of distention, and digitalization for congestive heart failure, should not be neglected. The proper use of serum in addition to the sulfonamides has been much discussed as it pertains to pneumococcal pneumonia. On the basis of mortality rates observed in a series of alternated cases,[3] 12.6 per cent in 80 patients treated with sulfapyridine and 9.8 per cent in 82 patients treated with serum plus sulfapyridine, I believe that serum should be given to patients over 40 years of age, or to patients in need of an immediate defervescence, as soon as typing of the sputum reveals the pneumococcus to be the causative organism, unless the disease appears to be very mild as judged by all the combined clinical and laboratory evidence. Bullowa and his associates[4] and Plummer and his coworkers[5] obtained no better results when serum was given in addition to a sulfonamide than when the sulfonamide was given alone. In these two series, however, treatment with the drug was started before sputum typing was completed, serum being given later to every alternate case. In our series, all treatment was withheld until a type of pneumococcus was obtained, and then either the drug or the drug plus serum was given to each alternate case. It is reasonable to conclude that this difference in method may account for the poorer results obtained by the other groups with the use of combined serum and sulfonamide therapy. In addition to the comparatively small group of patients who should be started off with the combined treatment, there are other patients who do not respond well to the drug. If a patient has not responded favorably to sulfonamide treatment within 24 to 48 hours, in spite of adequate levels of the drug, the clinician should consider administering serum immediately, since the value of serum is in great part dependent upon its being given within the first 4 or 5 days of the disease. Serum is needed today in only a fraction of the cases in which it would have been used before the advent of sulfonamide therapy, but when it is needed, it should be given promptly, and in sufficient doses. Administered in this way, it is often a life-saving measure.

In pneumococcal meningitis, serum is always given intravenously along with sulfapyridine or sulfadiazine. The initial dose of serum should be at least 200,000 units, and doses of 50,000 to 200,000 units should be administered daily thereafter as long as they are needed. Some observers believe that it is not necessary to give serum intrathecally. If it is so given, 50,000 units are usually administered along with 5 c.c. of fresh human serum in order to supply complement.

Whether to use serum in addition to the sulfonamides in meningococcal meningitis is a disputed question. Although the results of experiments in animals seem to show that combined treatment is superior to treatment with the sulfonamides alone, conclusive results have not been obtained in humans. Until the matter is settled, I prefer to combine the sulfonamides with serum.

The results in meningitis caused by Streptococcus haemolyticus are excellent with the use of sulfanilamide or sulfapyridine alone, while in influenzal meningitis the use of serum in addition to the sulfonamides is probably the best policy.

In conclusion, it might be said that the weapons have been forged and placed in our hands. It is up to us to know how to use them. We should know when to employ the sulfonamide weapons, which weapon should be selected, how it should be used, what other weapons should be employed at the same time, and when the use of the weapon should be discontinued. The proper knowledge of these new weapons should mean a campaign against death, the like of which the world has never seen.

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CLINICAL FACTORS IN MALE STERILITY BASED ON A STUDY OF ONE HUNDRED CASES

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Analysis of 100 consecutive males examined and treated for sterility shows that 50 per cent of sterility is attributable to endocrine dysfunction.

In general, the men were referred by gynecologists. On the whole, the female partners had been pronounced normal in respect to fertility although exhaustive studies had not been made in all cases. Attempts to impregnate had failed over a period of a year or more. The diagnosis of endocrine disturbance in the male was made on the basis of elimination of other etiologic factors and the occurrence of full term pregnancies following hormone therapy.

All of the patients were subjected to the same investigative procedure. A careful history was first taken including the number of years married; the number of children by previous marriages; the use of and kind of contraceptives; the occurrence of mumps with orchitis, of gonorrhea, of syphilis, of genitourinary operations, of injuries; the existence of urologic symptoms; the age at puberty; the character of the sex life; the sowing of "wild oats," etc.

The physical examination included the genitalia to determine whether such conditions existed as hypospadias, scars, urethral stenosis or stricture, discharge, undescended testicles, atrophy, nodules on the epididymis, thickening of the vas deferens, and rectal examination to determine the condition of the prostate and seminal vesicles. A urethroscopic examination was done if indicated; and an examination of the spermatic fluid to detect the presence of sperm was made to eliminate mechanical block as the cause of sterility. The fresh ejaculate was examined. Contrary to general opinion, it is not necessary to keep it warm. The chronologic span of sperm activity actually increases at room temperature. If heat is necessary for sperm life, why did nature suspend the testicle in a pendulous sac with air-cooling rugae outside the body? Squirrels and woodchucks are cryptorchid, but their testes come down in mating season. Sparrows are productive only in the cool morning hours. Human cryptorchids are usually sterile.

Although I examine the seminal fluid for color, quantity, reaction, viscosity, etc., the main factors are the sperm count, percentage of abnormal forms, and the degree of viability, particularly as to duration and percentage of motile forms. An ordinary counting chamber and differential stains only are necessary for this examination. The only difficulty is the question of what the normal is. There is no fixed rule. Low counts of motile sperm are found in the fertile male sometimes, whereas high counts are often found in the nonfertile. Even abnormal forms are not inconsistent with fertility. Some investigators consider counts of 60,000,000; 80 per cent viability; and 20 per cent abnormal forms as the criteria of sterility.

The presence of pus has been overrated. One need only recall the cases of girls who are impregnated and infected with gonococci at the same time and of the many fathers who have prostatitis.

In some cases of questionable spermatogenesis testicular biopsy is indicated. Obstructive cases are also located by vasostomy with injection of dyes. Roentgenograms are sometimes enlightening.

Treatment in general aims at removing the cause. The health of the individual must be placed at the optimum. Proper rest, diet, the use of vitamins A, C and E, and moderate exercise should be assured. Chronic debilitating disease and tiring occupations should be ruled out. Impotence must be treated by psychotherapy and removal of organic lesions. Ignorance as to sex relations among couples is astounding. Actual instruction is at times indicated. Perversions are usually psychiatric and are dealt with as such. Congenital anomalies such as cryptorchidism, hypospadias and abnormal attachment of the epididymis to the testicle respond to surgery. Hormone therapy improves a certain percentage of cases of undescended testicles and should be tried first, preferably before puberty. After puberty, even if the testicles are restored surgically, spermatogenesis has often ceased. Mechanical block of the sperm passages is usually the result of cicatricial contracture of the lumina due to gonococcal infection. This may be anywhere in the epididymis, the vasa, the vesicles, the ejaculatory ducts or the urethra, and most of the lesions are amenable to either surgery or instrumentation. Other cases such as a block from atrophy of the vas following influenza are hopeless. Torsion of the cord is sometimes relieved surgically.

If the urologic examination is negative, sterility is assumed to be of endocrine origin even without the other stigmata of glandular dysfunction. Hypothyroidism is treated with thyroid and pituitary deficiency with pituitary-like substances, which are known to stimulate spermatogenesis and are especially indicated where there is a lack of libido associated with the deficiency. The gonadotropic hormone from pregnant mare's serum, the gonadotropic factor from the pituitary, and the anterior pituitary-like substance seem to exert a stimulating effect on both the interstitial cells (Leydig) and the germinal cells of the seminiferous tubules (cells of Sertoli), and their use is indicated when the sperm count and percentage of viable sperm are reduced. As a precaution in the use of mare's serum, skin and eye tests should be done to rule out sensitivity, and 600 units T.I.W. suffices for the average adult male. In some cases a synergistic effect is noted in using both anterior pituitary-like substances and the gonadotropic factor in alternate courses.

In the 100 consecutive cases examined and treated for sterility, the following results were obtained. Sixty per cent were treated successfully and 40 per cent unsuccessfully as judged by subsequent impregnation. These figures include the untreated hopeless cases, those who did not follow the prescribed treatment, the ones whose mates afterwards could not be checked for pregnancy, and the complete failures. The 60 successful cases included 10 with organic pathology which was corrected. These were a polyp of the verumontanum in 1, stenosis of the ejaculatory ducts in 1, hypospadias in 2, bilateral epididymitis in 3, urethral stricture in 2 and chronic prostatic abscess in 1. In the remaining 50, there were no demonstrable genitourinary lesions. The history and the finding of an abnormal ejaculate indicated the endocrine therapy. The endocrine cases included 2 with a low basal metabolic rate corrected by the use of thyroid extract. Success was obtained in 18 of 28 cases treated by the use of anterior pituitary-like substance and 20 of 26 receiving combined therapy of the alternate administration of anterior pituitary and gonadotropic factor. Ten of 26 cases were successfully treated by the gonadotropic factor alone. Of the 40 unsuccessful cases, 20 received hormone therapy which definitely failed.

SUMMARY

Endocrinopathy may be responsible for a large percentage of sterile males. The man deserves a more meticulous examination than that usually accorded him. The results justify the use of endocrine therapy supplemented with other measures after organic pathology has been ruled out. The largest percentage of pregnancies was obtained in the cases in which the male was treated with a combination of anterior pituitary-like substance and the gonadotropic factor. In 100 unselected cases of apparently sterile males, 60 became fertile as proven by subsequent pregnancies of their wives. The longevity of their fertility is yet to be determined. The prognosis of a sterile male is not hopeless.

THE TREATMENT OF FIBROSITIS WITH VITAMIN E

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Primary disease of the muscle fibers is as a general rule dismissed with very little thought, and the discussion of it in the average textbook of medicine is limited to a paragraph or two. As a clinical entity, however, it does exist and probably more frequently than most of us realize.* It is usually seen as a localized infection, involving one group of muscles, e.g., the sternocleidomastoid group or the trapezius muscle. Occasionally one sees a profuse type of primary fibrositis which is usually diagnosed as a "myositis" or "rheumatism." Pathologically, fibrositis is characterized by an inflammatory reaction in the fibrous connective tissue which may be localized or generalized. In the primary diffuse type clinically the patient complains of stiffness of the muscles, which usually disappears upon exercise but which returns again when fatigue is imminent. This primary type is not to be confused with that associated with hypertrophic or atrophic arthritis. The distinguishing feature is that a fibrositic patient has no discomfort in the joints. Examination of the fibrositic muscle reveals a characteristic sense of resistance when palpated. At times there are small, solitary nodules palpable, and these are extremely tender. These patients usually run a low-grade fever, and laboratory examinations reveal nothing of note except moderate increase in the sedimentation rate.

Various investigators have reported the use of vitamin E in the muscle dystrophies, that is, amyotrophic lateral sclerosis, muscle atrophy following neuritis, muscle atrophy following poliomyelitis, and other conditions in which there is either primary or secondary muscle disturbance. There have been reports of success in the amyotrophic lateral sclerosis muscle by Wechsler,[1] but Sheldon, Butt and Woltman[2] could not agree with Wechsler's conclusions. Steinberg,[3] assuming that since vitamin E was of value in the aforementioned diseases involving the muscles, thought that it might be of value in fibrositis. He therefore used it in 80 cases which he reported. Thirty cases were primary fibrositis. The remainder were secondary to other conditions. Of the 30 cases of primary fibrositis, Steinberg makes the statement that "all were completely relieved of all symptoms." In his series he used wheat germ oil, the doses ranging from 2 c.c. to 8 c.c. daily. The treatment was continued until relief was obtained.

I have had occasion to treat 12 such cases of primary fibrosis. These patients vary in age from 26 to 45 years. Ten of the 12 were females. All of the patients were given a complete physical examination, and certain laboratory studies were made on all of them. As was stated before, the one significant finding is the increased sedimentation rate, and this was not more than moderately increased. Six of the 12 patients were treated with wheat germ oil, the same dosage that Steinberg recommended being used. The 6 responded well to the treatment. There were no untoward symptoms and all were completely relieved of their symptoms within a period of 3 to 4 weeks. The remaining 6 were treated with a synthetic vitamin E, alpha-tocopherol acetate, the dosage being 3 mg. 3 times daily. These patients likewise showed remarkable improvement and complete relief of all symptoms in 3 to 4 weeks.

Of the 12 cases treated in this series, which I appreciate is small but nevertheless significant, no localized primary fibrositis was included. They were all cases of generalized fibrositis. Although it is not the purpose of this report to convey the impression that vitamin E is a panacea for acute inflammatory reaction in muscles, it is merely submitted as further evidence that this vitamin through some unknown mechanism gives the patient suffering from primary fibrositis remarkable relief.

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* The reader is referred to Dr. Yater's excellent discussion of this subject in his textbook, "Fundamentals of Internal Medicine."

SUMMARY

1. Twelve clinically diagnosed cases of primary fibrositis, in which the diagnosis was made by means of the history, physical examination and laboratory methods, were treated with vitamin E.

2. Evidence has been presented in this small series of cases to substantiate Steinberg's conclusion that vitamin E is of value in the treatment of primary fibrositis. In the 6 cases treated with synthetic vitamin E, no appreciable difference in the result was noted from those treated with the wheat germ oil.

3. It is hoped that this brief report may stimulate further study in the mechanism and the use of vitamin E in larger groups of patients suffering from primary fibrositis.

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Say benzedrine sulfate effects on fatigue not entirely mental. Investigations conducted by ERNST SIMONSON, M.D.; NORBERT ENZER, M.D., AND S. S. BLANKSTEIN, M.D., Milwaukee, indicate that the abolition or reduction of the sense of fatigue after the use of amphetamine (benzedrine) sulfate not only is a subjective phenomenon but is substantiated by an increase in the excitability or receptivity of the central nervous system, they report in the September-October, 1941 issue of *War Medicine,* published by the American Medical Association, Chicago, in coöperation with the Division of Medical Sciences of the National Research Council, Washington, D. C.

The three men explain that in a recent review on amphetamine sulfate it was concluded by the authors of the review that the diminution of the sense of fatigue after administration of the drug appeared to be an entirely subjective phenomenon, i.e., it was perceived only by the affected individual and was not perceptible to the senses of another person. Because of this conclusion the three Milwaukee men say that "it seemed worth while to study the effect of amphetamine on fatigue of the central nervous system by a method the results of which cannot be influenced by any effort of the subject. Such a method is the measuring of the fusion frequency of flicker.

"The fusion frequency of flicker is the rate of successive stimuli which is necessary just to produce complete fusion and the same effect as continuous illumination. Thus the fusion frequency is the highest number of impulses the retinocortical system can perceive in a unit of time. . . ."

The three physicians say that the method used by them in their investigations consisted of a rotator arrangement devised so that the beam of light from an electric bulb was interrupted by a rotating disk with four identical openings. The subject was seated with his head placed on a chin rest so that the distance from the illuminated area to the eye was kept constantly at 1 meter. The speed of the rotator was increased until fusion occurred, i.e., the rotating disk no longer could be seen. The fusion was then measured by means of a stop watch and a revolution counter. A total of 62 experiments were performed with 6 subjects, 24 of them with amphetamine and 38 as controls. The subjects consisted of 2 female office workers, 2 male laboratory helpers, 1 female physician and a telephone operator.

From their study, they say, "It seems safe to conclude that amphetamine increases the excitability of the central nervous system independently of its state of fatigue and excitability at the time when amphetamine is given. . . . Amphetamine sulfate given three and one-half hours before the end of the working day increases the fusion frequency of flicker, the increase paralleling the abolition of the sense of fatigue."

It should be emphasized in connection with the report of the three Milwaukee physicians that repeated warnings have been issued regarding the hazards involved in the use of amphetamine sulfate without competent medical supervision. These warnings have pointed out that not only is there the risk of addiction but that attempts by the layman to relieve fatigue by the use of this drug are hazardous in that the fatigue he seeks to relieve may in reality be a warning sign of some serious condition that should receive immediate attention.

OCULAR EMERGENCIES IN GENERAL MEDICAL PRACTICE*

Frank D. Costenbader, M.D.
Washington

The general practitioner meets with and manages many acute and serious disturbances involving the head and the chest, as well as emergencies in the fields of obstetrics and urology. These conditions which endanger the life of the patient will often not inspire in that patient the fear and the demand for immediate attention which some much less serious disturbance of the eye will call forth. In consequence, many very minor acute eye conditions are referred to the oculist because of timidity on the part of the physician, or insistence on the part of the patient. On the other hand, many serious though less acute eye conditions fail to reach the oculist soon enough, because of a lack of understanding of the problem involved, or because of the physician's effort to save the patient trouble and expense.

Let us then consider the "ocular emergencies": the minor emergencies which rightly should and usually can safely be cared for in general medical practice; the major emergencies which usually require specialized training and equipment for their recognition and treatment; and lastly, a group of childhood emergencies whose recognition and management require special emphasis because of the importance attached to them by the parents.

In the past, when reading in Roemer's Textbook of Ophthalmology, or in books dealing with other phases of medicine, I have been impressed with the method of presenting cases, describing their history and physical findings, and discussing differential diagnosis, as if the patient, the lecturer, and the audience were all present in the same room. Without hoping to equal their skill, I shall attempt the same method of presentation. May I bring before you, in spirit only, patients in these groups of ocular emergencies, and discuss with you their management.

Minor Emergencies

Mr. A came in the office stating that for 2 days the right upper lid had become increasingly swollen and tender. There had been no discharge, a slight scratchy feeling, and no loss of vision. Examination showed a localized, intensely inflamed area just back from the margin of the lid, showing no tendency to "come to a head." The conjunctiva beneath this swelling was roughened and thickened, but the eyeball was intact and uninvolved.

This was an acutely inflamed **chalazion,** a blocked, infected Meibomian gland, often called a "blind stye," because it seldom fluctuates or discharges purulent material. It should be differentiated from the true **stye,** which lies at the lid margin, is an infected lash follicle, comes to a head, discharges pus, and clears up completely. Both the chalazion and the stye should be treated by hot, wet applications for 15 minutes as often as every 1 to 2 hours. The acute chalazion will subside, leaving a lump which must later be incised and curetted, or completely excised. Neither the stye nor the chalazion should be patched up, but left open to facilitate removal of secretion and avoid spread of infection to other glands or lash follicles. I personally am not inclined to feel that antiseptics hasten healing. They may, however, help prevent spread of infection. If styes and chalazia recur, the use of antiseptic ointments and massage should be instituted several times a day, the use of an autogenous vaccine considered, the general health improved, and a refraction done.

The next patient, Mrs. B, was seen to have intensely swollen, red upper and lower lids of the right eye, with some mucopurulent material at the inner and outer corners and along the lashes. Mrs. B stated that following a sore throat of several days duration, the eye became itchy, the lids swelled, intense burning set in, the watery discharge thickened, and the lids had been badly swollen and stuck together for 2 days. Examination revealed angry bright redness and edema of the bulbar conjunctiva, the cornea was clean and the iris well seen and reacted well. The conjunctiva of the everted lids was beefy red, swollen, studded with papules, and several strings and blobs of white mucopus were present.

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* Read at the Thirteenth Annual Scientific Assembly of the Society, September 30, 1941.

This was an **acute conjunctivitis** probably due to a streptococcus, but might well have been due to the pneumococcus, gonococcus, Koch-Weeks bacillus, influenza bacillus, and rarely, the diphtheria bacillus. These forms are difficult to differentiate without bacteriologic examination. The pneumococcal and Koch-Weeks forms are the common acute "pink-eye," and had best be treated by frequent warm boric acid irrigations, followed by instillations of 10 per cent argyrol, 1 per cent mercurochrome, metaphen, mercurophen, or any one of a host of other antiseptics, used at least every 3 hours. More recently I have been using 5 per cent sulfathiazole in ointment form with good results. Should this infection prove to be diphtheritic, the treatment is largely general. If gonococcal, it is very serious, requiring hospitalization at once, atropine, cold compresses, cleansing, foreign protein therapy, and the use of the sulfonamides internally. Sulfanilamide taken by mouth has proven highly effective in treating gonorrheal conjunctivitis. Needless to say, every precaution to avoid the spread of these infections, especially the gonococcal, should be taken.

Mr. C, the next patient, complained of feeling a cinder in his eye for the preceding 4 hours. The lids were slightly swollen, tears but no other discharge streamed from the eye, and there was considerable photophobia. The feeling of foreign body was chiefly referred to the under surface of the upper lid. On examination with a good strong light, the photophobia and discomfort were increased, and therefore 2 drops of ½ per cent pantocaine were instilled in the eye about 2 minutes apart, and in 5 minutes the feeling of foreign body had disappeared, the lids could be easily opened and everted, and the cornea examined without difficulty. Mr. C, who is a metal worker, had a small brown **foreign body** superficially embedded in the upper part of the cornea. Having already instilled a local anesthetic, I could take a small rounded spud and lift the foreign body out, lightly curetting the rust from the adjacent cornea.

I have seen badly abraded corneas when attempts were made to remove foreign bodies without the aid of anesthetics. When a foreign body has been removed, some antiseptic ointment such as bichloride of mercury, merthiolate, or metaphen ointment should be put in the conjunctival sac, and the eye closed and taped shut with a gauze pad for 24 hours. The abrasion resulting from the removal of a foreign body will heal more readily, and not become infected if patched routinely. Whenever a foreign body is suspected, the upper lid should be everted and the under surface of the lid examined, even though a foreign body is found elsewhere. Mr. C with the same symptoms might well have had a **corneal abrasion** from the edge of his paper, his baby's finger nail, or a twig in his garden. If on examination no foreign body is seen, a drop of 2 per cent fluorescein is put in the eye. This stains the abraded cornea a bright green and makes the abrasion easily visible. The eye having an abraded cornea should also be carefully patched until it no longer stains. Mr. C might also have had one or more small **superficial corneal ulcers,** possibly associated with an acute conjunctivitis, giving him much the same symptoms. Fluorescein will also help visualize these. The ulcers should be lightly curetted and patched, and the conjunctivitis treated. Should Mr. C have gotten lime in his eye, local anesthetic and fluorescein are very necessary in making the examination and determining the extent of the **burn.** There should be thorough cleansing with a weak acid, an anesthetic and antiseptic ointment such as 2 per cent butyn and metaphen instilled, and the eye patched. Needless to say, if the healing of any of these conditions is not rapid, consultation and more vigorous treatment are wise.

Major Emergencies

Among the major emergencies, we must of course consider first the cases of mild corneal ulcers, the abrasions, the foreign bodies, and the burns which have become infected, resulting in an eye intensely painful, often with nausea, vomiting, and severe headaches. The vision is considerably reduced. The pupil is small, sluggish, and very resistant to mydriatics. These so-called **infected ulcers** or **serpent ulcers** of the cornea are most difficult eye conditions to treat. When healing of mild injuries fails to progress, the injured area of cornea becoming grey and the pain great, infected ulcer should be suspected. Prolonged hospitalization, foreign protein therapy, intensive mydriasis, local cautery, removal of foci of infection, building up of the general health, and at times, even surgery, must be resorted to. All oculists, I am sure, have worked over infected ulcers for weeks, wishing they had had the opportunity for earlier treatment.

Mr. D, the next patient, was brought in from an automobile accident. Very cursory examination revealed a laceration through the full thickness of the lower lid near the lacrimal punctum. Further examination revealed a **laceration through the cornea** with a tag of iris protruding. The lens seemed to be uninjured. With all of these things present, Mr. D had his eye firmly but gently patched, and was sent to the nearest hospital.

If the globe had not been involved, the lid could then have been safely sutured in the physician's office, making every effort to approximate the exactly apposing edges of the tear, paying particular attention to the lid margin. A common mistake is to suture the torn punctum area to a more inferior area nasally, resulting in a permanent droop of the lower lid and constant "tearing." The lid should not be sutured before an injured globe is repaired, since further damage may result to the globe during the procedure. Also, the lacerated globe is harder to expose for surgery after lid repair. When Mr. D was seen in the hospital, the exposed iris was excised, the cornea sutured, a conjunctival flap drawn over the cornea, the lid then sutured, and the eye bandaged. Mr. D will undoubtedly have some visual loss from corneal distortion.

The next patient, Mrs. E, was seen at home. She showed considerable swelling of her lids, moderate redness, only watery discharge. She stated that pain in the eye had been extreme, extended well into the brow, and was of a boring character. The pain was accompanied by nausea and vomiting. The vision was extremely blurred. Examination showed a hazy cornea and a very shallow anterior chamber, and the iris was not well seen but seemed thick and the pupil dilated. When felt with the finger tips, the eye was definitely hard. Mrs. E had an **acute glaucoma.**

The return of useful vision is jeopardized by every hour that passes. This patient should be started on 1 per cent eserine salicylate, 2 drops every 10 minutes, until her oculist has a chance to see her. Her pain may be controlled by morphia, but without atropine. About one half of these cases of acute glaucoma seen early may be brought to normal tension and stabilized without surgery. The others require broad basal iridectomy before the tension will respond. Had Mrs. E had photophobia, a small pupil instead of large, a deep instead of shallow anterior chamber, more acute inflammation, and the eye soft instead of hard, an **acute iritis** would have been suspected. Here atropine, hot applications, salicylates, foreign protein therapy, and elimination of foci of infection are necessary. Neither acute iritis nor acute glaucoma should be confused with acute conjunctivitis in which vision is not affected, the cornea, iris and anterior chamber are normal, pain is not severe, and a definite mucoid or purulent discharge is present instead of just tears.

One point more should be made in emphasizing glaucoma; that is, most glaucomas are not acute, showing no inflammation. There is nagging pain or discomfort, but not severe. Glasses may seem unsatisfactory, but in the early stages no great loss of vision is complained of. The pupil is a little large and sluggish, the anterior chamber somewhat shallow, the tension may or may not be elevated on palpation, and the optic disk may show some cupping. Unfortunately, irreparable damage is often done by chronic glaucoma before adequate advice is sought and received.

Childhood Emergencies

My final group of patients were children brought in by anxious parents. Some were the victims of major ocular emergencies, others were major only in the minds of the parents, who then needed intelligent advice. The unfortunate victims of the bow and arrow, the knife, the scissors, and the firecracker, are but counterparts of Mr. D, and their lacerations and perforations need not be considered here again.

Of the two children I wish to consider particularly, the first is Baby F, aged 9 days, who was just home from the hospital nursery. From the seventh day of life, an increasing swelling, redness, and purulent discharge of both eyes had been noticed by the nurse. Boric acid irrigations were not helpful. The routine of careful cleansing of the eyes and instilling 1 per cent silver nitrate just after birth had been rigidly adhered to. The mother had no considerable vaginal discharge; no gonococci had been found on smear. Nonetheless, a picture suggestive of gonorrheal ophthalmia was present. Closer examination revealed very edematous and inflamed lids. The swollen conjunctiva was thrown into folds covered by papules, from between the everted lids. A smear of the secretion showed no gonococci, but did show a diphtheroid bacillus (which is not important), and when studied carefully, using a Giemsa stain, intracellular inclusions could be found in the epithelial cells. These are thought to be a stage in the life cycle of a virus. This was a case of **inclusion-body conjunctivitis in the newborn.**

Since I first had the opportunity of seeing a case five years ago, I have seen 5 to 10 times as many cases of inclusion-body conjunctivitis in the newborn as gonorrheal conjunctivitis in the newborn. Just last week I was called to see a 14-day-old baby who was the counterpart of the case here described. I have put her on sulfathiazole ointment in the eye, following boric acid irrigations every 2 hours. Her improvement has been most satisfactory. I would have preferred the use of the sulfonamides by mouth, but she had a definite feeding problem and oral medication was thought unwise. If not adequately treated, the disease may persist for months, causing great annoyance but fortunately not causing damage to vision. They have in the past been blamed on impure or old silver nitrate, sensitivity to silver nitrate, or a host of other things. The infection is undoubtedly from a quiescent infection of a similar type from the cervix of the mother.

Had Baby F's eyes become swollen before the fourth day instead of after the sixth, caused corneal ulceration, and the gonococcus been found instead of inclusion bodies, a diagnosis of **ophthalmia neonatorum,** or **gonorrheal conjunctivitis in the newborn,** could have been made. It is interesting to note that inclusion bodies and gonococci occur together at times. Fortunately both conditions have been found to respond readily to the use of the sulfonamides. I have been accustomed to give sulfanilamide, 1 grain per pound of body weight, daily. The acute phase usually is over in 3 to 6 days, and frequently by that time the gonococcus or inclusion body can no longer be found in the smear. The sulfanilamide should not be stopped abruptly, but reduced gradually over a period of a week, since recurrences do occur. Needless to say, gentle irrigations of the eyes should be done as often as is necessary to keep them clean of secretion, but I use no other local medication. The strictest aseptic precautions should be observed with both types of cases to prevent spread of infection.

My final case was little Jimmy G, aged 5. Mrs. G explained that at the age of 2 following whooping cough (or it might have been the measles, or a blow on the head, or a severe fright), she noticed that Jimmy's left eye turned in whenever he looked at anything closely. This was exaggerated when he was tired, excited or ill.

He seemed to see well, but was somewhat clumsy and had rubbed his left eye at times. As time went on, the cross became greater and was constantly present. Examination of Jimmy's eyes revealed a left convergent **strabismus,** worse when fixating a close small object. The amount of cross seemed about the same in all directions of gaze. The vision in the straight eye was 20/20. When the good right eye was covered, the crossing left eye could not fixate a light steadily, and the vision was less than 20/200. Refraction under atropine revealed hyperopia (farsightedness) of 4 to 5 diopters.

Here we had a nonacute emergency, a child who was the victim of neglect or poor advice. To begin with, Jimmy should have been seen and examined within two weeks of the appearance of the strabismus. The poor vision in the left eye was the result of disuse, and could have been prevented easily. It may even be restored at his present age, but the difficulty is much greater. The degree of cross could have been minimized by glasses at any age, and would now be well on the way to recovery, had treatment been started early. At present Jimmy needs constant patching of his right eye to force the use of the left, and glasses to relieve his eyes of excessive effort. Later, exercises to encourage the proper "seeing together" of the two eyes, and possibly surgery, will be necessary. The four steps in the treatment of squint are (1) refraction, and glasses if the error is large, (2) patching the good eye to restore vision in the poor, (3) exercises to develop the fusion, and (4) surgery to help align the eyes properly. Two points should be emphasized: 1. Rarely does a child outgrow a cross, and if so, he frequently has permanently poor vision in the crossing eye; and 2. A squint should be treated when it is first seen. I tell my patients that any child more than 6 months old with a constant squint, or more than 1 year old with an occasional squint, should be seen and examined. Some type of treatment can be instituted at any age, and the necessary advice and instructions given the parents. Early and faithful care is the keynote of success in the treatment of strabismus.

SUMMARY

In closing, may I say that I have made no attempt to exhaust the ocular emergencies. I have selected the conditions most commonly seen by me, and presumably frequently seen in general medical practice. I would like to remind you of several important points which might otherwise be forgotten. First, the cure of most cases of conjunctivitis is greatly facilitated by cleansing and using antiseptics at frequent intervals. Treatment every hour is much better than twice a day. Second, examination and treatment of foreign bodies, abrasions, ulcers, and burns of the cornea, are greatly aided by using a local anesthetic first, then instilling fluorescein to aid in visualizing the loss of corneal surface. Third, any affection of the cornea not responding readily to treatment and causing deep pain should be seen promptly by the oculist. Fourth, one must carefully differentiate acute glaucoma from acute iritis, since their treatments are exactly opposite. Fifth, an injured globe must always be repaired before the injured lid. Sixth, inclusion-body conjunctivitis should be recognized and differentiated from gonorrheal conjunctivitis in the newborn, though both respond well to the sulfonamides. Seventh, strabismus should be treated early; rarely does a child truly outgrow a squint without some loss of function.

Equine encephalitis in Kansas. Evidence that the virus of western equine encephalitis causes disease in human beings in Kansas is reported in *The Journal of the American Medical Association* for December 6, 1941, by JAMES A. WHEELER, M.D., Newton, Kan.

For his investigation he obtained specimens of blood from reported cases of encephalitis occurring in man over the state. The final results showed that 50 per cent of the patients tested showed evidence of protection or antibodies against the western equine virus.

The isolation of the western equine and St. Louis encephalitis viruses from mosquitoes, the author says, suggests the mosquito as a vector or carrier of the virus. This vector theory, he points out, is further supported by the fact that "in Kansas the incidence of poliomyelitis, encephalitis and equine encephalitis ceases abruptly with the fall frosts."

EDITORIALS

"A DATE THAT WILL LIVE IN INFAMY"

On December 7, 1941, Japan deliberately provoked hostilities with the United States. Attacking our Far Eastern possessions without warning, she wrought serious havoc. The loss of life, together with the damage to our planes, ships and other material is not known at this writing. Thus has ended months of uncertainty in regard to our participation in the war. Our job now is to win through, no matter what it may cost.

The editorial that follows was written prior to the declaration of war. It stresses the fact that all citizens have a stake in the future of the United States. The ruthless struggle for power and economic advantage by certain labor leaders in recent months is deplored. This is all past now, and we of the medical profession, in common with all citizens, set ourselves to the task of meeting the severest test in our history.

AN AWAKENING OVERDUE

In common with the majority of citizens, physicians have been shocked by the arrogant behavior of certain labor leaders in the present emergency. Their lust for power has led them to such extremes that an Administration sympathetic to labor has been forced to seek legislation to prevent disruption of the defense program. It is a spectacle that should arouse the nation to the dangers inherent in the domination of our Government by any minority group.

The growing resentment of those who are generously responding to the Government's appeal for support toward those who would capitalize on the war effort is not surprising. To put it mildly, it is a grave injustice to our finest youth who are now in the military services, and to the vast number of patriotic citizens who are giving of their time and money. Among the latter is the medical profession which in every part of the country is participating in the defense program without thought of compensation.

The question might well be asked, who has the greatest stake in America's future? The answer is, of course, that it is not any segment of the population, but all of the people. Labor cannot dominate and prosper at the expense of other citizens any more than capital can, without social upheavals.

The so-called middle class may well be concerned with the present situation. In the struggle for power, it has apparently been forgotten, perhaps because for the most part its members are unorganized. The truth is that the middle class is the backbone of this country. Destroy it economically and socially and we will not survive as a great nation. If those who seek only their selfish ends do not realize this, their gains may be all in vain.

As a matter of fact, there is no room in America for classes. In a world which is threatened with destruction, ours is the only country of hope. But we will have little to offer unless we are a united people. It is not enough for us to retain our independence. This alone would not be worth fighting for. It would be like a physician assuring the patient that he will live and telling him that his health would always be seriously impaired.

We who make up the great middle class—physicians, lawyers, educators, small business men, office workers and others—should serve notice on the rule-or-ruin minorities that we will no longer tolerate groups tinged with totalitarian ideas. On the contrary, we will leave no doubt in the minds of our elected representatives about our position on this point. We will also recognize the power of public opinion and that organized or unorganized, we are the American people whose will must be respected.

America has been and must remain a country in which all enjoy equal opportunity and freedom from oppression.

DEFEND HEARING

Each year since 1927 the American Society for the Hard of Hearing, Washington, D. C., has observed National Hearing Week, a period devoted to an intensive program of public education, calling attention to the great prevalence of impaired hearing and the need of medical care and appropriate educational facilities for hard-of-hearing children and adults. Throughout the United States and Canada, the Society's chapters, which now total 122, have joined in the continent-wide program. This year National Hearing Week was observed October 19 to 25.

The theme was, very appropriately, "Defend Hearing," for enlistment of drafted men is revealing that the nation's defense of hearing has already lagged sadly. Of the 6,743 applicants for enlistment in the Regular Army during June, July and August, 1940 in the Southern New York District of the Second Corps Area, which includes New York City proper, 2,195, or more than 32.5 per cent, were rejected for failure to meet the Army's physical requirements, as reported by George E. Leone, Captain, M.C., U. S. A. and medical inspector for recruiting of the Second Corps Area, New York, in the *Journal of the American Medical Association* for October 12, 1940. There were 202, or 10 per cent, in the group rejected for failure to meet the hearing and ear requirements. The majority of those rejected in this group were found to be suffering from inflammation of the middle ear in acute or chronic form in one or both ears, associated with impaired hearing. The time to prevent most of such cases is in childhood.

What is being done in the District of Columbia to discover incipient cases of deafness and apply remedial measures? Let us look back as far as 1868 when the United States Congress established the Columbia Institution for the Deaf, that the congenitally deaf children of the District might receive an education. At that time little or no discrimination was made between the deaf and the hard of hearing. No one realized how many there were in the latter group.

The deaf may be classified as those who cannot learn speech and language in the normal way, through imitation, because they cannot hear. The hard of hearing are those who have heard normally and so have learned to speak naturally but have since lost part of their hearing, many of them through childhood diseases. The causes of lowered hearing are many and include impacted wax or foreign bodies in the ear, enlarged and diseased tonsils and adenoids, frequent colds, catarrh, bad teeth, neglected running ears, measles, scarlet fever, diphtheria, whooping cough, meningitis, mumps, blows on the ear, water in the ears from swimming and diving (especially if the ear drum has been punctured), and violent blowing of the nose. With so many ills to beset the path of childhood and lower hearing acuity, it is amazing to realize that hard-of-hearing children, who far outnumber the congenitally deaf, have been so misunderstood and neglected. Both parents and teachers have been prone to consider them dull or stupid or willfully disobedient if they have failed to respond promptly to questions, summons or instructions which they have only half heard or missed entirely. Today we understand the plight of these children, but is our defense of their hearing and of the coming generation an all-out effort? Far from it! Let us begin with practical measures to defend the hearing health of all children in the District of Columbia.

We must know which children are hard of hearing and what the degree of hearing loss is; then remedial measures must be applied promptly, because a surprisingly large number can be improved or cured. Statistics gathered by the American Society for the Hard of Hearing show that in the school year 1938–39, 1,871,031 children were given audiometer tests in 767 towns and 126 counties of the nation. The number of children with impaired hearing, on the basis of failure to hear better than 9 decibels on 2 tests with the group audiometer, was 130,755. A total of 13,433 pupils were given examinations by otologists and 45,075 received medical inspections in the schools subsequent to their hearing test failures. The number reported as improved or restored to normal hearing was 6,485.

By using the group audiometer as many as 40 children may be tested at a time and those with no hearing loss screened out. Those who fail to hear the audiometer record numbers below the 9 decibel level should be retested. Immature or nervous children will adapt themselves to the second test. Experience shows that about 50 per cent of the students taking the retest will be eliminated. Because the group- or phonograph-audiometer is not a precision instrument, otologists agree that the findings should not be considered conclusive, but that a third test should be made with a pure tone audiometer and that this should be done under medical supervision. It is better to wait a few weeks before giving this test, that colds or other unfavorable conditions may be cleared up.

Another method of testing is to use the pure tone individual audiometer in the first place. This method is somewhat slower but is favored by some because this audiometer is a precision instrument.

Some testing has been done in the Washington public schools and a few children have had instruction in lip reading, but Washington lags far behind other large cities in its deafness-prevention program. An all-out defense of hearing calls for annual hearing tests for all preschool and school children; medical examinations for those with a hearing loss of 9 decibels or more; instructions to parents, especially on the dangers of neglect; otologic treatments; establishment of more clinics for those who cannot afford individual attention; lip reading classes in the schools for those who need it, depending on the prognosis; speech correction and the use of hearing aids for the severely hard of hearing; and, finally, vocational advice, that the ear-handicapped may retain their rightful places in our economic and social life and be spared the difficult and needless period of readjustment through which so many adults have passed at a terrific cost of nervous and physical energy, not to mention financial sacrifice.

William A. Morgan, M.D.

HOUSE OFFICERS' NIGHT

The Program Committee of the Medical Society has designated the meeting to be held on March 25, 1942 as House Officers' Night. On this occasion the scientific part of the program will consist of the presentation of papers by members of the house staffs of the local hospitals. Announcement of this plan and invitation to submit papers in competition for the event have already been sent to the interns and residents concerned.

It is the opinion of the Committee that a great deal of meritorious research is accomplished by house officers each year in Washington. Some of this work is performed under the guidance of attending staff physicians, but much of it is the product of individual thought and effort by the house officers. Heretofore, little or no attempt has been made to give this work the recognition that it deserves from the Society. House Officers' Night is intended to afford an opportunity for correction of this deficiency on our part. At the same time, it is entirely safe to predict that the Society will benefit not only by the acquisition of a valuable scientific session but also by the development of a more effective liaison with the hospital residents and interns. It is the hope of the incumbent Program Committee that succeeding Committees will see fit to make House Officers' Night an annual function. It is their expectation that if this is done the occasion will prove to have an annually increasing popularity.

PERTINENT PARAGRAPHS

November Meetings

Meetings were held with increasing frequency throughout November and activities of boards and committees were rapidly approaching their peak. Much time and effort were devoted to various aspects of national defense. In consequence, the regular program of the Society has not received the attention it is hoped can be given it later in the year.

The following meetings were held:

November 5	Business Meeting of Society
November 6	Section on Neurology and Psychiatry
November 7	Subcommittee on Sanitation
November 12	Scientific Meeting of Society
November 17	Medical Bureau Committee Obstetrical Board
November 18	Special Committee on 1710 M Street
November 19	Committee on Military Affairs
November 21	Section on Ophthalmology and Otolaryngology
November 24	Board of Censors; Executive Board
November 25	Section on Pathology and Laboratory Medicine
November 26	Committee on Military Affairs Scientific Meeting of Society
November 27	Committee on Medical Economics
November 28	Committee on Public Health

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Equal Justice under Law?

Because in some respects it is similar to the case involving the American Medical Association, et al., the prosecution of General Motors by the Department of Justice for violation of the Sherman Anti-Trust Act has been of interest to the medical profession. About the time the medical case was coming to a close, the Circuit Court of Appeals affirmed the verdict of the jury in the General Motors case acquitting the individual defendants, one of whom was William S. Knudsen, now Co-chairman of O.P.M., and finding the corporation guilty. An appeal was made by General Motors to the Supreme Court of the United States, which has recently refused to review the case.

David Lawrence commented at length on the Court's refusal in the *Washington Evening Star* for November 11. He said:

> "The rights of the citizen, the fundamental rules of fair play, the opportunity for redress against capricious prosecutions and persecutions are usually subject to check by the judiciary. But it is beginning to develop that the Supreme Court, from which the courts below take their cue, has so profoundly confused and perplexed the Federal judges that many of them are openly proclaiming their dilemma.
>
> "Is the present Supreme Court class-minded? Is it fair? Is it really faithful to its oath to dispense justice to rich and poor alike? These questions will be discussed more and more as the court's acts are revealed."
>
> "What General Motors is alleged to have done two years ago is today the policy of the Government through the Federal Reserve Board and by executive order of the President. Certainly the effect of the corporation's acts appears now to have been in the public interest."

Mr. Lawrence states that Judge Walter J. Lindley, at South Bend, Indiana, during the trial of General Motors "was about to rule on a motion to dismiss the indictments. He indicated that he would have done so but that if he took such a step, the Justice Department would not have an opportunity to carry the case to the Supreme Court for review, and he believed this was such a complicated affair the highest court should review it."

Judge Lindley had this to say about the case:

> "I have given serious consideration to this indictment. I have taken very careful notes of the evidence as it has progressed. . . . The case is, I think, without precedent. . .
>
> "I observed in a late opinion of the Supreme Court of the United States that one of the justices recently appointed expressly said that the court had been reconstructed. The fair implication of that opinion, as I read it, is that precedents may be of little avail and their lack no bar.
>
> "The Supreme Court of the United States is the supreme judicial authority of this country. It should be, and is, I think, the greatest judicial tribunal on the face of the earth. But the occurrences which I have mentioned frequently place me in a quandary as to when and how often a district judge should express his own solemn convictions. I am not saying that I have any in this case, but we have here a situation where, if I should allow this motion, there is no opportunity upon the part of the Government (the Justice Department) to have a review by the Supreme Court, the action of which I cannot undertake to foretell, the decision of which I feel in no wise capable of prognosticating.
>
> "If I should allow this motion, the Supreme Court would not have the opportunity to decide what the law is in a case which is, as I have said, without precedent."

Mr. Lawrence expressed the opinion "that the pendulum has swung to a distinct partisanship for the Justice Department and New Deal attorneys. He reminds readers of President Roosevelt's complaint of 1937 that the Court needed younger and more vigorous judges, that it was not active enough and that "it was denying reviews to citizens and Government attorneys."

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Emergency Aid Stations in Drug Stores

In response to a request made by the Council of Defense for the Washington area, the District of Columbia Pharmaceutical Association has agreed to establish Civilian Defense Emergency Aid Stations in qualified drug stores in the event of an emergency. W. Paul Briggs, Chairman of the Association's Special Committee on Pharmacy and Civilian Defense, writes the Medical Society as follows:

> "In order that the purpose and function of these stations may be clearly understood by the physicians of Washington, may I request that you embrace an early opportunity to call the nature of these stations to the attention of your membership."

Embodied in the report of the Committee is the following explanation of Emergency Aid Stations:

> "The entire program of Civilian Defense is of the nature of an ounce of prevention. No part of this structure is to be called into operation unless the citizens of the United States are actually in danger as a result of attack by a national enemy. It must be clearly understood that Emergency Aid Stations are being set up to serve the people only in the event of war or attack. An Emergency Aid Station is not intended to replace a Red Cross First Aid Field Post or organized medical services. There is no authority or intention to authorize a Pharmacist in Charge of an Emergency Aid Station to extend his services beyond his legal and professional limitations. The establishment of an Emergency Aid Station must not enlarge the extent of your present services with respect to ordinary emergencies or humanitarian services under usual circumstances. It is important that each Pharmacist embrace every opportunity to make this position clear to his co-workers, to the public and to the members of the medical profession. An Emergency Aid Station may function beyond this limitation only in the event of war with its attendant bombings and air raids. In like manner, an Air Raid Warden assumes a responsibility and a degree of authority only in the event of an actual air raid. Failure on the part of any Emergency Aid Station to observe these limitations of service will result in immediate removal from the list of authorized Emergency Aid Stations and may jeopardize the privilege for service of all."

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". . . a very hopeful note"

Considerable interest has been shown by the public in the Periodic Health Examination Program recently adopted by the Medical Society. News reports indicate that the project is being discussed by various civic groups. Of particular interest was the following editorial comment which appeared in the *Washington Post* for November 10:

> "Public-spirited doctors and many laymen concerned over the neglect of the national health have been trying for years to devise better means of employing medical skill to keep the people well instead of merely trying to cure specific illnesses. In this department of preventive medicine group-health plans have had some degree of success. Likewise such agencies as the Health Security Administration, which helps patients to work out the problem of paying for medical care, have done well. Still the task of shifting the major emphasis of medical science to the preventive side of medicine remains to be achieved. Perhaps there would be more progress if the work were directed and encouraged by the doctors themselves. This now looks likely. At any rate, the quick response of the District Medical Society to President Roosevelt's suggestion as to periodic medical examinations strikes a very hopeful note. The society unanimously agreed upon a plan to provide standard physical examinations at a fee much lower than that which has been customarily charged. Persons unable to pay for examinations would be granted that service free with the aid of the city's medical schools. Coöperation of the public will be needed, of course, to make the plan a success. It must be remembered also that the periodic examination is only the first step toward preventive medicine in private practice. But that fact does not minimize the significance of the experiment which the Medical Society has launched."

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Mr. Garrett Resigns as Administrator of H. S. A.

Mr. Ross Garrett, Administrator of Health Security Administration since its organization, resigned on November 15 to become consultant to the Administration.

In 1935, Mr. Garrett, then Health Secretary of the Council of Social Agencies, organized the Central Admitting Bureau for Hospitals and the Medical Dental Service Bureau. These organizations were consolidated in 1938 and became known as Health Security Administration. Under Mr. Garrett's direction the Administration made rapid progress, becoming one of the most important voluntary health institutions in Washington.

Because of Mr. Garrett's close association with the Administration and his intimate knowledge of the manner in which it functions, he has acquiesced to the desire of Administration officials and will remain as consultant. Dr. William DeKleine becomes Acting Administrator, in which capacity he will serve until January 1, 1942, when a successor to Mr. Garrett will be named.

National Defense Health Clinics

The Medical Society's Committee on Radio Education began a series of broadcasts—National Defense Health Clinics—over the national network of the Mutual Broadcasting System in October. The Clinics were the first broadcasts of their kind undertaken by the Society, and their success must be credited to the Committee, particularly Dr. Henry B. Gwynn, its Chairman, who is responsible not only for obtaining the speakers but for the direction of the program.

As members of the Society who have heard the Clinics know, they are really forums where the participants are afforded an opportunity to express their views. The broadcasts have been on the air from 11:00 to 11:15 p.m., Eastern Standard Time, on Thursday evenings.

The following are the broadcasts which have been presented. As will be noted, a great number of distinguished guests have participated. In every instance, Dr. Gwynn was the moderator.

October 16 “The Nation's Health as Revealed by Selective Service”
Col. Leonard G. Rowntree, Chief of the Medical Division, Selective Service System
Dr. James A. Gannon, of the Appeal Board of the District Selective Service System
Dr. Warren F. Draper, Assistant Surgeon General, U. S. Public Health Service

October 23 “Health and Morale in the Army Camps”
Major Leon L. Gardner, Medical Corps, United States Army
Major L. T. David, Morale Division, War Department
Representative John J. Sparkman of Alabama (member of the House Military Affairs Committee)

October 30 “The Blitzkrieg and the Civilian”
Dr. George H. Baehr, Chief Medical Officer, Office of Civilian Defense
Col. Lemuel L. Bolles, Executive Officer, D. C. Council of Defense
Mr. James H. R. Cromwell, former U. S. Minister to Canada
Hon. Claude Pepper, U. S. Senator from Florida

November 6 “Food in War and Peace”
Sir John Orr, Director of the Imperial Bureau of Nutrition
Dr. Albert McCown, Medical Director, American Red Cross

November 13 “The War of Nerves”
Sir Wilmott Lewis, Washington Correspondent, *London Times*
Dr. Elmer Kayser, Dean of University Students, George Washington University
Dr. Winfred Overholser, Superintendent, St. Elizabeths Hospital

November 20 “The Church's Part in Maintaining National Health and Morale”
Canon Williams, Washington Cathedral, Protestant Episcopal Church
Dr. Wilfrid Parsons, S. J., Professor of Political Science, Catholic University of America
Rabbi Norman Gerstenfeld, Minister of the Washington Hebrew Congregation

November 27 “Medicine's Role in America's Defense”
Dr. Morris Fishbein, Editor, *Journal of the American Medical Association*
Rear Admiral Ross T. McIntire, Surgeon General of the Navy
Gen. Lewis B. Hershey, Director, Selective Service System

December 5 “The Man and Woman of Tomorrow”
Hon. Harold H. Burton, U. S. Senator from Ohio
Miss Katherine Lenroot, Chief, Children's Bureau, U. S. Department of Labor
Mr. Charles P. Taft, Assistant Director, Defense Health and Welfare Services, Office for Emergency Management

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Voices Crying in the Wilderness

In a recent issue of *Proceedings of the Life Extension Examiners*, a national journal “published in the interests of the periodic health examination,” Dr. H. J. Johnson deplores the rejection of army selectees for physical defects because a large percentage of them have been found preventable. As to the responsibility for this situation, Dr. Johnson says:

"For many years medical and dental societies, insurance companies and other agencies interested in public health have been voices crying in the wilderness urging the public to have routine periodic health examinations with correction of discovered ailments as soon as they are found. It was repeatedly pointed out that conditions of disease often cause only slight symptoms in the early stages when they are most easily correctable. It is regrettable that more people did not believe these statements. In recent years there has been much loose talk about the inadequacy of medical care and the difficulty of obtaining it when needed. Numerous programs have been devised to reduce cost of sickness and to apply the benefits of medical care for a larger group of the population. Little or nothing has been said of the fundamental fact that much disease is preventable and an even larger part curable if detected early.

"Far too little attention has been paid to the important factor of individual apathy in failing to take advantage of readily available medical service."

"Past experience has shown that when the American public has become convinced of the desirability of a certain action the results almost automatically follow. It seems that with our genius for advertising, it should not be too difficult a task to convince the public that its health is important for national safety as well as individual comfort. As soon as people begin to consult their physicians for check-ups before they feel sick, we shall find a significant improvement in the condition of the public health."

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Increase in Nursing Rates

At its meeting on November 4, the Graduate Nurses Association of the District of Columbia voted to increase rates for nursing care from $5.00 to $6.00 for an eight-hour day, and from $7.50 to $9.00 for a twelve-hour day.

This increase in the costs of medical care is of great concern to physicians, who feel that patients are already heavily burdened with "extras." It is recognized that living expenses are higher. However, nurses in common with members of other professions, are busier and more steadily occupied now than at any other time. Furthermore, most persons needing care have not had a corresponding increase in income. These facts, it seems, should be taken into consideration. It appears unwise for any group in the health field to increase its charges during this emergency unless it is found absolutely necessary.

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Medical Bureau's First Anniversary

On December 2, 1941, Medical Bureau, the Medical Society's 24-hour telephone exchange, completed its first year of operation. During this period it had grown from 115 to 175 subscribers. At present, four hospitals and the Health Security Administration have private lines to the Medical Bureau switchboard. Forty-four physicians subscribe to the Telephone Secretarial (private wire) Service and 131 to the Alternate Listing Service.

Financially, the Bureau has about maintained itself. It is fairly certain that it will do better than that in the coming months due to the increased membership.

Many subscribers have commented favorably on the efficiency with which the Bureau handles calls. A large share of credit must go to the operators whose enthusiastic and conscientious work deserves high praise.

The Bureau has rendered a valuable service to many new residents of Washington, most of them Government workers. Thousands have called the Medical Bureau for reliable information about physicians and medical institutions. In most instances they have requested names of physicians in general practice or the specialties. These have been given from the list prepared for the Bureau. Gratitude has frequently been expressed for the assistance given.

The Medical Bureau Committee is proceeding with plans to make the Bureau of still greater value to the public and the profession. At the present moment, a blood donor registry is under consideration. The registry already has the approval of the Society's Section on Pathology and Laboratory Medicine.

PRESIDENT'S PAGE

AN EXPRESSION OF GRATITUDE

At this season of the year, when a spirit of good will should prevail, it is a pleasure for me to transmit the following letter to our members.

The Medical Society of the District of Columbia
1718 M Street, Northwest
Washington, D. C.
Attention: Dr. Henry Schreiber

Dear Doctor Schreiber:

I cannot permit this opportunity to pass without extending to you personally and, through you as its President, to the Medical Society of the District of Columbia this genuine expression of the sincere appreciation which those charged with the administration of Selective Service in the Nation's Capital entertain for the outstanding work which you and the members of your Society have done as their contribution to the successful operation of this most important and urgent Act of legislation. No one understands better than I the personal sacrifice that service has compelled of those who have volunteered so willingly to its rendition. The generous coöperation which the members of your Society have extended from the beginning has continued with characteristic loyalty and enthusiasm and has made possible in great measure whatever degree of efficiency the administration of this law has attained in this city. This present contribution of your profession to the country in this day of her national emergency is in true accord with the fine tradition of its past and serves now as an encouraging example of patriotic devotion which will always have its place as an inspiration to many unselfishly to carry on. You have merited the deserved appreciation of the Selective Service System of the District of Columbia. I extend it to you heartily and unreservedly.

I am, sincerely and with best wishes,

Gratefully,

William E. Leahy
D. C. Director of
Selective Service

We can assure Mr. Leahy that the medical profession is proud to give its services to the country in this emergency.

It is my sincere hope that all of our members will enjoy a most pleasant holiday season.

Henry R. Schreiber

MEDICAL PREPAREDNESS SECTION

Dr. George Baehr, Chief Medical Officer of the Office of Civilian Defense, has announced the appointment of a subcommittee of the Advisory Board of the Medical Division, Office of Civilian Defense, to prepare recommendations on protective procedures for hospitals in the event of belligerent action.

Dr. Robin C. Buerki, Dean of the Graduate School of Medicine and Director of Hospitals of the University of Pennsylvania, Philadelphia, a member of the Medical Advisory Board, is chairman of the new subcommittee and the members are:

Dr. Willard C. Rappleye, Commissioner of Hospitals, New York City; Dr. Asabel J. Hockett, Superintendent of Touro Infirmary, New Orleans; Dr. Anthony J. J. Rourke, Medical Superintendent of Stanford University Hospitals, San Francisco; Dr. Joseph Turner, Director of Mount Sinai Hospital, New York City; Dr. Huntington Williams, Commissioner of Health of Baltimore.

The subcommittee held its first meeting at the Hotel Commodore, New York, November 8. With Dr. James M. Mackintosh, former Chief Medical Officer of the Scottish Ministry of Health, as a guest to advise the group, measures for preventing or minimizing damage to buildings, handling of casualties, evacuation, provision and protection of supplies, and training of personnel for specific duties in case of bombing were discussed in detail. The basis for discussion was a study made by a committee of the American Hospital Association on physical defense of hospitals, of which Dr. Hockett is chairman. It is expected that a report will be issued jointly by the hospital association committee and the committee representing the Office of Civilian Defense.

Dr. Mackintosh also conferred with the staffs of the medical and civilian protection divisions of the O.C.D. at the Washington headquarters, November 7, describing in detail Britain's organization of its protective services, its early mistakes and the measures taken to correct them.

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In an effort to improve the efficiency of the present system of examining selectees, General Lewis B. Hershey, Director of the Selective Service System, has ordered the discontinuance of induction centers on or about January 15, 1942, and the establishment of conveniently situated Army Examining Stations in various parts of the country. The station to which selectees from the District of Columbia and border counties of Virginia will be directed will be located at Fort Myer, Virginia. The examining board assigned to this station will be made up of civilian physicians under the direction of an Army Medical Officer.

The Medical Society's Committee on Military Affairs has been asked to submit its recommendations for appointment to the above board, which will consist of specialists as follows:

1 Roentgenologist
1 Ophthalmologist
1 Otolaryngologist
3 Internists
1 General Surgeon
1 Orthopedic Surgeon
1 Psychiatrist for each 50 men examined
1 Dentist

The Committee has come to the conclusion that at least four panels of physicians will be needed to carry on the work of the examining board. In other words, four times the number in the above specialties will be needed. Every physician who serves on the board will be required to devote one or two days a month to examining selectees. Remuneration will be $15.00 for an eight-hour day and is intended merely to aid in covering their expenses.

The Committee has canvassed only those physicians who are now serving on local examining and Medical Advisory Boards in the District, feeling that they should have the first opportunity of indicating whether or not they would accept appointment to one of the panels of the examining board.

Several inquiries have been received in regard to the continuance of local examining and Medical Advisory Boards after January 1. So far as the Committee has been able to determine, their functions will not be materially altered.

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Calling attention to the fact that a "deficiency in nursing facilities may soon reach a serious stage due to the increasing needs of our military establishments and of our public health and industrial hygiene services," Mayor F. H. LaGuardia, U. S. Director of Civilian Defense, recently inaugurated a nation-wide program "to augment the depleted nursing service of our hospitals, clinics, public health and field nursing agencies."

Efforts are being made to increase the number of student nurses entering classes of hospitals all over the country. Inactive nurses are being urged to perform part-time or full-time duty, and a training program for nonprofessional hospital workers by the W.P.A., N.Y.A. and other agencies is going forward.

Mr. LaGuardia states that despite all efforts to increase the nursing personnel, there will be a shortage. For this reason, an ambitious program for the training of nurses' aides is contemplated. Collaborating in this effort are the American National Red Cross, the Office of Civilian Defense, and the Federal Security Administration, who have designed a new, intensive course of training for volunteer nurses' aides which can be completed in seven weeks. Following completion of the course, aides will be assigned to work with nurses in hospital wards, health departments, and visiting nurse, school health, and industrial hygiene services.

THE PERIODIC HEALTH EXAMINATION—METHOD OF PROCEDURE*

John A. Reed, M.D.

Chairman, Committee on Public Health, The Medical Society of the District of Columbia

Your Committee on Public Health proposes the establishment of a Periodic Health Examination Program by the physicians of Washington. The time has come when we must take a forward-looking view concerning the health of the individual. The program which the Committee is proposing is not one that will be accomplished in the twinkling of an eye, nor one which will be a finished and perfected accomplishment within the lifetime of this particular committee, but will extend over years—with correction of errors and constant endeavor to formulate a more perfect plan. But a beginning must be made and the Committee is tonight bringing this program to you for your serious consideration.

The concept of the periodic health examination is not new. It received the attention of the House of Delegates of the American Medical Association 19 years ago—to be exact, in June 1922. The Army, the Navy, schools, insurance companies, industry, business, child welfare and preschool clinics, all have recognized the worth of periodic examinations. The benefits derived from them are so evident that it would be superfluous for me to discuss this point except to say that medical experience has demonstrated their value.

Notwithstanding universal medical approval, the idea of the periodic health examination has not been presented in a sufficiently attractive manner to appeal to the average self-supporting man and woman. The indifference of the physician himself has also been an obstacle.

Let me briefly outline a few features of the proposed program for it is too large a subject to discuss in detail.

First, we must recognize that the periodic examination has for its real objective the determination of physical and mental fitness, not life extension nor the prophecy of good health in the immediate or remote future. The primary value of such an examination is that it serves as a measure of present health status, as a guide to correction of defects found, and as a basis for the institution of further diagnostic measures when deemed advisable. It provides the physician with an opportunity for discovery of diseases in their incipient stages.

The examination should include a thorough physical investigation plus a routine office urinalysis. Forms for recording findings will be furnished by the Society at cost. It is felt that following such an examination, a physician will be able to give either a health clearance or to advise such further studies, laboratory tests, or consultations as are indicated. It is felt that if this examination is done with care and precision, a service is offered to the individual which is invaluable.

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* Presented at the Business Meeting of the Society, November 5, 1941.

Extensive and expensive accessory diagnostic procedures are not included in the proposed examination, even to persons who could well afford them. A careful physical examination will usually disclose the health status of the individual without the supporting evidence of the more expensive laboratory findings, thereby keeping the cost at a level where a great number of persons may avail themselves of this important preventive measure. Eliminating laboratory tests in the basic examination simplifies the procedure for the examining physician, as many doctors who will do the examinations may not be prepared in their offices to perform them. They will, of course, recommend X-ray examination or laboratory tests when indicated.

The fee for the proposed periodic health examination was weighed carefully, and after lengthy discussion and consideration, the Committee arrived at a figure of five dollars. This may be low or may be high, but considering the charge by many physicians, it is thought to be moderately low. If the charge for this service is more than some of the low income groups can afford, there is no reason why the individual physician might not make exceptions and reduce the fee as he often does in his other work. If the physician finds after examination that certain treatment for defects is indicated, and the individual elects to have the examining physician perform the service, he might waive the initial fee and charge the patient for an ordinary office visit.

Who shall make these examinations? Naturally, the bulk of them will be made by the family doctor, the general practitioner and the internist. There is no reason, however, why any physician, general practitioner or specialist, should not make the examination. Should those physicians in special practice feel themselves out of touch with such work, there is no reason why classes and demonstrations could not be presented.

To propose a periodic health examination program and to have its endorsement by the Society through appropriate action does not assure its success as a protective health measure. It must be popularized in the minds of the public. Through the proper committee of the Society, the proper concept of health examinations can be placed before the lay public.

In proposing the Periodic Health Examination Program, and obtaining the Society's approval, and even assuming the lay public heartily accepts it and seeks the service of physicians, we are only at the beginning of our undertaking. In order to make a success of this endeavor, there is a primary and basic "must," a tremendously important "must." Every physician "must"—and too much emphasis cannot be given this statement—every member of the Society must assist with this program. Your interest alone is not sufficient; your active interest, your enthusiastic coöperation and participation in the program must be pledged and given. Help your profession, your Society, and the public by your active support. Do not let this far-reaching program flag or fail. Do not say after you leave these halls, "That's fine, let John do it." The time is at hand for the medical profession of the Nation's Capital to take the lead in preventive medicine, rather than relinquish it to public health or commercial agencies.

SOCIAL AND ECONOMIC ASPECTS OF THE PERIODIC HEALTH EXAMINATION*

THEODORE WIPRUD

Secretary, The Medical Society of the District of Columbia

The importance of periodic health examinations has recently been brought forcibly to public attention because of the large number of rejections for military service due to physical defects. Although statistics released for publication have been subject to misinterpretation, the fact remains that physical defects have been discovered which, if they had been detected many years previously, could have been remedied. Because of aroused public interest, this would seem the time for the medical profession to inaugurate a long-range program in preventive medicine. If the profession fails in this regard, it is my belief that it is passing up a real opportunity to lead rather than be led.

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* Presented at the Business Meeting of the Society, November 5, 1941.

In the 1940 edition of "Periodic Health Examination—A Manual for Physicians," published by the American Medical Association, the profession is charged with indifference to health examination. "For almost twenty years," the Manual states, "this situation has existed and the time has come when physicians must either adopt the periodic health examination and perform it on their own initiative or relinquish the field to public health and commercial agencies."

Obviously, I am not qualified to discuss the scientific aspects of the periodic health examination. However, I have listened with considerable interest to discussions in committee meetings as to their value. There seems to be agreement on the point that health examinations have serious shortcomings, but so far as I can learn, the consensus of opinion is that they are of real value. The danger of making extravagant claims for them is well stated in the American Medical Association's Manual:

"Too much stress has been placed on the value of health examinations as a guarantee of good health between examinations. It takes only a few spectacular occurrences, such as deaths or sudden dramatic illness subsequent to a periodic health examination which gave no foreshadowing of these events, to discredit the whole procedure. No promise or prophecy of good health in the future should be offered."

There is no doubt that the Government will endeavor to make available preventive procedures, including periodic health examinations, to greater numbers of the population. There has already been a vast expansion of facilities of the United States Public Health Service and local health departments. Classes of the population for whom periodic health examinations are now "required, provided or otherwise popularized" include "expectant mothers, infants and preschool children for whom health examination has been advocated by obstetricians and pediatricians and by public health authorities and by and for whom it is being accepted on an increasing scale. Elementary school children, and to a lesser extent high school students, have a periodic health examination provided for them, but in these examinations are found many inadequacies as to frequency, performance, interpretation, educational utilization and follow-up. Many colleges provide examinations upon entrance and from time to time during the pursuit of studies; such examinations are provided for all students in some instances and for athletes in virtually all instances."

Other groups receiving periodic examinations are the individual life insurance policyholders, employees of a great number of industrial concerns, and persons engaged in hazardous undertakings. Generally speaking, however, a very small proportion of the population are given examinations periodically or even at infrequent intervals. Reasons for this are numerous and certainly the responsibility cannot be placed entirely upon the medical profession. For example, certain insurance companies have long conducted campaigns among their policyholders in an endeavor to stimulate interest in examinations. In some instances they have agreed to pay for the examinations. However, I am informed that comparatively few have taken advantage of the opportunity.

Despite this apparent indifference on the part of the public, there can be no doubt that the cost of examinations is a factor, many people taking the attitude that there is no reason why they should pay for the services of a physician when they are apparently well. Then, too, there is a lack of understanding among most people as to the value of the examination.

The Medical Society's Committee on Public Health considered these and many other matters relating to a periodic health examination program. It came to the conclusions of which you have already been informed: that the examination must be standardized and a form prepared for the use of physicians; furthermore, that a fee must be decided upon which will be low enough to attract individuals who are convinced of the advisability of a periodic examination.

In addition to making the examination attractive from the standpoint of fees, it was agreed that efforts will have to be made in regard to informing the public of the value of the periodic examination. The American Medical Association's Manual states that "the ethical principles which govern the practice of medicine prohibit the doctor from advertising his services, but they have been interpreted by common consent to permit the physician to function as a health educator within the framework of medical organization subject to approval of his colleagues in his local medical society."

Coöperation of official and voluntary health agencies as well as civic leaders in the community is essential. In fact, the proper procedure, in my opinion, would be to invite each organization to appoint a representative to a permanent committee which would conduct a year-round educational program.

The following methods of stimulating public interest in periodic health examinations have been adopted by a number of medical organizations: the creation of a committee for the education of the public, discussion of the subject on scientific programs, radio talks by members of the medical profession, distribution of pamphlets through physicians' waiting rooms, promotion of the health inventory idea through talks at meetings of lay organizations, judicious coöperation with newspapers, enclosure of notices in physicians' monthly statements, display of cards in physicians' waiting rooms, demonstrations at public events, and coöperation with health agencies. These are all of value; however, I believe a program, to be successful, must be established on a permanent basis; all health agencies and civic groups in the community must actively participate in it.

The public and the medical profession will benefit economically from this program. The individual, particularly if he is young, whose correctible defects are discovered early, will become an asset rather than a liability to society. The physician, on the other hand, will be paid a reasonable fee for his services. Where defects are discovered, he or one of his colleagues will render the needed medical attention.

There can be no doubt that there is a growing feeling throughout the country that America must be made physically strong. A step in this direction will be to take an inventory of the health of the people at frequent intervals. The only means by which this can be done is the periodic health examination. This situation, it seems to me, is a challenge to the leadership of the medical profession.

MEMBERSHIP

The following applicants for membership will be voted on at the business meeting, January 7, 1942:

For Active Membership

Catharine Birch, George Washington University—1937
J. Earl Kadan, University of Maryland—1937
John Louzan, Georgetown University—1938
George Wilson Russell, Georgetown University—1936
Joe Harold St. John, Vanderbilt University—1915
Robert George Taylor, University of Pennsylvania—1938

For Associate Membership

John Henry Gilligan, Georgetown University—1929
Solomon Katzenelbogen, University of Geneva, Switzerland —1918

Recent changes in membership status:

Active to Associate

Richard L. DeSaussure

Reinstated to Active Membership

Walter Atkinson
Irvin Feldman
Ivy A. Pelzman

WOMAN'S AUXILIARY NOTES

Many new members of the Woman's Auxiliary to the Medical Society of the District of Columbia were present at the November meeting. The good work being done by Mrs. Ernest R. Hadley and her Membership Committee is responsible for this evidence of increasing membership. Mrs. John Clark, representing the Red Cross, gave an interesting and instructive talk on Red Cross activities and needs. Samples of garments made by volunteers were exhibited.

The next meeting of the Auxiliary will be devoted to civilian defense. Dr. John A. Reed, Chief of Emergency Medical Services for Civilian Defense in the District of Columbia, will be the speaker. Following the meeting the annual custom of filling Christmas stockings for the Washington Heart Clinic will be observed.

The Philanthropic Committee is making plans to sell Christmas seals for the District Tuberculosis Association. They will have a table at the Washington Loan and Trust Company, 9th and F Sts., N. W.

The Education Committee reports that the young woman whose nursing education was sponsored by the Auxiliary has recently graduated from Sibley Hospital. This project has covered a period of three years. The Committee is now looking for another young woman ready to begin nurses' training, whom they feel is worthy of financial assistance.

Mrs. Joseph L. Gilbert, in charge of the Red Cross drive this year, reported that 622 memberships were obtained in the medical group, making a total subscription of $1,429.00.

Mrs. E. Leonard Goodman
Publicity Chairman

MEETINGS

Wednesday, January 7

Special Business Meeting

Thursday, January 8

Section on Neurology and Psychiatry

"Serial Thorium Studies of Irradiated Brain Cyst." Herbert H. Schoenfeld, M.D., Associate Clinical Professor of Surgery, George Washington University School of Medicine

"Psychotic Visitors at Government Offices." Jay L. Hoffman, M.D., Medical Officer, St. Elizabeths Hospital; Instructor in Psychiatry, Georgetown University School of Medicine

Wednesday, January 14

The Washington Academy of Surgery will sponsor the program.

(Speakers and subjects to be announced)

Wednesday, January 21

Panel discussion on "Peripheral Vascular Diseases"

Moderator: Wallace M. Yater, M.D., F.A.C.P., Professor of Medicine, Georgetown University School of Medicine

Participants:

Norman E. Freeman, M.D., F.A.C.S., Assistant Professor of Research Surgery, University of Pennsylvania School of Medicine

A. Wilbur Duryee, M.D., F.A.C.P., Assistant Clinical Professor of Medicine, New York Post-Graduate Medical School, Columbia University

J. Ross Veal, M.D., F.A.C.S., Adjunct Clinical Professor of Surgery, George Washington University School of Medicine and Georgetown University School of Medicine

Buffet Supper

Wednesday, January 28

The Section on Pediatrics will present a panel discussion on "Evaluation of the Schick Test and Other Common Pediatric Diagnostic Procedures."

(Complete program to be announced)

NEWS AND PERSONALS

The Fourth Annual Forum on Allergy will be held in Detroit, Michigan, January 10 and 11, 1942.

The Fourth Annual Congress on Industrial Health sponsored by the American Medical Association will be held January 12 and 13 at the Palmer House, Chicago. These meetings are open to physicians and others interested in industrial health. There is no registration fee. Participating in the program is **Dr. Verne K. Harvey**, Medical Director, U. S. Civil Service Commission, who will speak Tuesday afternoon on the subject, "Recent Trends in Physical Examinations under Civil Service."

"**Doctors at Work**," the dramatized radio program broadcast by the American Medical Association and the National Broadcasting Company, returned to the air for its second season, December 6, 1941, 5:30 to 6:00 p.m., E.S.T. The broadcast last year was a serialized story dealing with the experiences of a fictitious but typical American boy, Tom Riggs, who chose medicine for his vocation and proceeded to acquire the necessary education and hospital training for the private practice of medicine. This story has been resumed this year, beginning with the marriage of Dr. Riggs to Alice Adams, and will depict the subsequent life of a young doctor and his wife in time of national emergency. The locale will be a typical, medium-sized American city.

The American Urological Association offers an annual award, not to exceed $500, for an essay (or essays) on the result of some specific clinical or laboratory research in urology. The amount of the prize will be based on the merits of the work presented, but if the Committee on Scientific Research deems none of the offerings worthy, no award will be made. Competitors shall be limited to residents in urology in recognized hospitals and to urologists who have been in such specific practice for not more than five years. Essays should be in the hands of the Secretary, Dr. Clyde L. Deming, 789 Howard Avenue, New Haven, Conn., on or before April 1, 1942.

The business office of **Surgery, Gynecology and Obstretrics** has advised that they will be glad to pay cash, or exchange current issues, for certain back numbers of their publication, provided the text matter is complete and not mutilitated or defaced in any way. They will pay $1.00 each for November 1905, January and March 1906; 50 cents each for January 1939, February 15, April and May 1940, April and May 1941; and $5.00 for complete Volume 2, January to June 1906. In addition they will refund the postage. They suggest that the journals be mailed parcel post or as second class matter, whichever rate is lower. The package should be wrapped carefully with the name affixed so that proper credit will be given.

The 35th Annual Session of the Southern Medical Association, which convened in St. Louis, Mo., November 10 to 14, was attended by a number of Society members. The following names appeared on the registration lists:

Drs. Theodore J. Abernethy, Joseph B. Bogan, Dexter M. Bullard, James N. Greear, Jr., Guy W. Leadbetter, James W. Love, Sanford M. Rosenthal, Ernest Sheppard, Francis G. Speidel and J. Ross Veal.

Dr. Oscar B. Hunter was elected a member of the Executive Committee of Council.

Dr. J. Ross Veal, Chief Surgeon of Gallinger Hospital, was the recipient of a scientific award for the exhibit he presented at this meeting, which portrayed his work at Gallinger Municipal Hospital and Georgetown University School of Medicine on the "Prevention of Pulmonary Complications in Thigh Amputations by the High Ligation of the Femoral Vein." By use of the "high ligation" technic since its development in 1938, Dr. Veal estimates that the mortality rate in limb amputations at Gallinger Hospital has been reduced over 50 per cent.

The Washington Academy of Medicine held two meetings in November. On November 4, L. H. Schmidt, Director of The Institute for Medical Research, Christ Hospital, Cincinnati, and Dr. James M. Ruegsegger, Assistant Professor of Medicine, University of Cincinnati, spoke on "The Uses of Sulfonamides." Dr. Homer F. Swift of the Rockefeller Institute for Medical Research, New York City, addressed the Academy, November 18 on the subject, "The Nature and Etiology of Rheumatic Fever." This was the third program in the Alfred Friedlander Memorial Lecture Series.

The Clinico-Pathological Society held a dinner meeting November 4 at the Chevy Chase Club, with Dr. John A. Talbot as host. Dr. Worth B. Daniels read a paper on "Bronchopneumonia of Unknown Etiology in a Girls' School." Dr. Prentiss Willson was host to the Society on November 18, at which meeting three case reports were presented: "Toxic Thyroid with Cardiac Decompensation," Dr. H. H. Kerr; "Hepatosplenomegalia," Dr. J. W. Lindsay; "Kaposi's Sarcoma," Dr. Lee McCarthy.

Dr. C. Willard Camalier, former President of the American Dental Association, has been appointed to serve on a five-man advisory body on defense health personnel, according to an announcement made November 1 by Federal Security Administrator Paul V. McNutt. This group, which will endeavor to coördinate the demands for trained medical, dental and veterinary personnel in the event of full mobilization, will function under the chairmanship of Dr. Frank Leahy of Boston, President of the American Medical Association. Other members are Dr. Harvey B. Stone of Baltimore, Dr. James E. Paullin of Atlanta, and Dr. Harold S. Diehl, Dean of the University of Minnesota School of Medicine. The first meeting will be held in Chicago, December 18, when matters pertinent to defense health personnel will be considered.

Dr. and Mrs. Walter W. Boyd have presented Children's Hospital with an occupational therapy room which will accommodate more than 50 handicapped children. At special ceremonies, November 19, Walter, Josephine and John, sons and daughter of Dr. and Mrs. Boyd, unveiled a plaque dedicating the room, its equipment and an outside garden to Mrs. Katherine Dorr Willard Boyd, their grandmother. Dr. Boyd, in response to an introduction by Dr. Joseph S. Wall, Chief of the Hospital Medical Staff, told the guests that "this room is given by children to the service of children, and it can never be quite finished as it must answer a continuing need." The gift was accepted by Charles D. Drayton, President of the Hospital Board.

Rear Admiral Ross T. McIntire, Surgeon General of the United States Navy, was elected an honorary

Fellow of the American College of Surgeons, November 3.

The Graduate Nurses Association wishes to call attention to the serious shortage of nurses in the District of Columbia, due to the fact that the defense program has taken so many graduate, registered nurses into active military service. There are openings available in the February student classes of several local hospitals. Doctors are urged to advise any well qualified young women to begin training as nurses in order to take the place of those who are now engaged in some phase of the defense program. Further information may be secured by calling National 2149.

The 1941 Christmas Seal Sale of the District Tuberculosis Association opened officially November 24, with Mr. Paul D. Sleeper as Chairman of the Christmas Seal Committee, which is a committee of volunteer workers. The Society's Committee on Public Health has endorsed the campaign and recommends its support by the Society.

The National Conference on Employment of the Disabled, sponsored by the National Rehabilitation Association, was held at the Wardman Park Hotel, November 21, 22 and 23. **Dr. J. Winthrop Peabody,** President of the District Tuberculosis Association, presided Friday afternoon at a session devoted to problems of private organizations. **Dr. Verne K. Harvey** of the Civil Service Commission was one of the speakers on Saturday morning.

Dr. Elizabeth Kittredge addressed the monthly meeting of the Mother's Health Association Volunteer Committee, November 18. **Dr. Agnes McNutt,** Medical Director of the Association's Birth Control Clinic, reported on its activities for October. It was announced at this meeting that **Dr. Preston A. McLendon** had just accepted an invitation to serve on the Association's Medical Advisory Board.

Dr. William Sebald Keller of Cincinnati, Ohio, was commissioned Senior Surgeon in the Reserve of the United States Public Health Service, according to an announcement October 25. He was called to active duty as Regional Medical Officer in the Fifth Civilian Defense Region with headquarters in Columbus, Ohio.

Dr. Wallace M. Yater spoke on the topic, "Choosing Medicine as a Career," over Station WINX, November 19. This was the second program of the Hoya Review, a weekly broadcast sponsored by Georgetown University.

Dr. William De Kleine gave a talk on nutrition before the Women's Auxiliary to the District of Columbia Dental Society, November 25.

Dr. Agnes L. McNutt addressed the Jewish Community Center Institute, November 19, on the subject, "Physical Aspects of Marriage."

Dr. Norvell Belt won the Kloman Trophy Cup for 1941 at the golf tournament sponsored by the Louis Mackall Society at Kenwood Country Club, November 12.

BOOKS RECEIVED FOR REVIEW

Acknowledgment is made of the following books which have recently been received for review:

Synopsis of Allergy. HARRY L. ALEXANDER, M.D., Professor of Clinical Medicine, Washington University School of Medicine, St. Louis; Editor of The Journal of Allergy. Pp. 241. Price, cloth, $3.00. St. Louis: Mosby, 1941.

Collected Reprints of the Grantees of the National Foundation for Infantile Paralysis—1939–40. Pp. 187. New York: National Foundation for Infantile Paralysis, 120 Broadway.

The Toxemias of Pregnancy. WILLIAM J. DIECKMANN, M.D., Associate Professor of Obstetrics and Gynecology, University of Chicago; Attending Obstetrician, Chicago Lying-in Hospital and Dispensary; Attending Gynecologist, Albert Merrit Billings Memorial Hospital of the University of Chicago; Associate Editor of the American Journal of Obstetrics and Gynecology; Co-chairman of the 1941 Conference on Eclampsia, Children's Bureau, U. S. Department of Labor. Pp. 509. Price, cloth, $7.50. St. Louis: Mosby, 1941.

Synopsis of Genitourinary Diseases, 3rd ed. AUSTIN I. DODSON, M.D., F.A.C.S., Professor of Genitourinary Surgery, Medical College of Virginia; Genitourinary Surgeon to the Hospital Division, Medical College of Virginia; Genitourinary Surgeon to Crippled Children's Hospital; Urologist to St. Elizabeths Hospital; Urologist to St. Luke's Hospital and McGuire Clinic. Pp. 292. Price, cloth, $3.50. St. Louis: Mosby, 1941.

MEDICAL SOCIETIES WITH LIMITED MEMBERSHIP

WASHINGTON, D. C.

1941–1942

SOCIETY	PRESIDENT	SECRETARY	NO. MEETINGS PER YEAR	DATE OF MEETINGS	PLACE OF MEETINGS
Aesculapian	T. S. Collins	Weldon Price	9	1st Tuesday	
Association of Medical Fellows of Georgetown University	S. W. Nealon, Jr.	J. A. O'Donoghue	8	4th Tuesday	
Baltimore-Washington Dermatological	R. J. Fields, Washington	Maurice Sullivan, Baltimore	8	3rd Thursday	Alternating Baltimore and Washington
Clinical Club	C. B. Conklin	P. S. Constantinople	8	1st Tuesday	Cosmos Club
Clinico-Pathological	W. B. Daniels	H. L. Darner	14	1st & 3rd Tuesdays	
George Washington University	H. F. Kane	O. B. Hunter	8	3rd Saturday	G. W. U. Schl. of Med.
Georgetown Clinical	P. N. Taylor	A. J. B. Connolly	8	3rd Tuesday	Hamilton Hotel
Georgetown University Medical Alumni Club	J. F. Brennan	T. F. Keliher	2	On call	
Hippocrates-Galen	G. R. Huffman	W. K. Myers	8	1st Thursday	
International Medical Club	P. S. Constantinople	F. A. J. Geier	—	On call	Mayflower Hotel
Jacobi	Samuel Dessoff	S. E. Lachman	8	3rd Monday	Ambassador Hotel
Kober	Harry Zehner	O. H. Wendt	8	3rd Monday	Columbia Country Club
Mackall	W. B. Marbury	D. C. Crain	7	3rd Thursday	Kennedy-Warren Apts.
Medical Arts	F. D. Costenbader	G. B. Rude	7	2nd Thursday	University Club
Osler	W. B. Daniels	A. B. Chinn	8	3rd Monday	
Pan American (D. C. Branch)	J. A. Lyon	L. B. Norris	4	Sunday	
Saint Elizabeths Hospital	J. L. Hoffman	C. L. Hoye	4	On call	St. Elizabeths Hospital
Syphilis Journal Club	H. H. Hazen	G. W. Creswell	5	On call	
Virginia, Maryland and District of Columbia	J. A. Gibson, Leesburg, Va.	A. M. MacDonald, Washington	2	On call	Alternating Va., Md. & D. C.
Washington Academy of Medicine	W. F. Draper	E. C. Albritton	3	On call	Cosmos Club
Washington Academy of Surgery	Edmund Horgan	J. W. Watts	4	2nd Friday[*]	
Washington-Baltimore Psychoanalytic	E. E. Hadley	R. M. Crowley	8	2nd Saturday	Medical Society Building, Wash.[*] Stafford Hotel, Baltimore[†]
Washington Gynecological	W. J. Stanton	L. L. Cockerille	5	4th Saturday[‡]	
Washington Heart	B. W. Leonard	B. J. Walsh	—	On call	
Washington Institute of Internal Medicine	C. R. L. Halley	B. W. Leonard	—	On call	
Washington Medical and Surgical	T. C. Thompson	E. M. Pickford	7	4th Monday	Kennedy-Warren Apts.
Washington Ophthalmological	E. L. Goodman	Sterling Bockoven	4	1st Monday[†]	Episcopal Hospital
Washington Society of Pathologists	T. M. Peery	Alfred Golden	8	On call	Army Medical Museum
Washington Urological	H. N. Dorman	I. A. Pelzman	4	Monday—every 6 weeks	Hay-Adams House
Women's Medical	H. G. Kain	Caroline Jackson	4	1st Tuesday[§]	Doctors Hospital

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[*] October, December, February, April.

[†] November, January, March, May.

[‡] October, November, January, March, May.

[§] October, November, February, April.

Note: Most of these societies begin their regular meetings in October and continue through May.

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